JUN 16 1923

This Issue Exceeds 80,000 Copies

# THE JOURNAL

OF THE

## American Medical Association

Annual Subscription, $6.00 — PUBLISHED WEEKLY — Single Copies, 20 Cents

VOLUME 80, No. 24 — 535 North Dearborn Street, CHICAGO, ILL. — JUNE 16, 1923

## CONTENTS AND SUBJECT INDEX

Gastropexy by Shortening the Gastrohepatic Omentum: With Anatomic and Physiologic Considerations. John J. Gilbride, M.D., Philadelphia...1745

The Motor Mechanism of the Gallbladder. Asher Winkelstein, M.D., New York .....1748

Breast Carcinoma Treated Surgically and by Roentgen Ray: Clinical and Postmortem Findings in Two Cases. Cassie B. Rose, M.D., Chicago...1750

Congenital Strictures of the Esophagus. Porter P. Vinson, M.D., Rochester, Minn. .....1754

Riedel's Lobe Simulating Nephroptosis. Otto J. Wilhelmi, M.D., St. Louis .....1755

Pyelotomy, Ureterolysis and Extirpation of the Kidney: A Special Technic. Gustav Kolischer, M.D., and Harry Katz, M.D., Chicago.....1757

The Danger of Liquid Petrolatum in Parenteral Injections. Fred. D. Weidman, M.D., Philadelphia.....1761

Intraperitoneal Transfusion with Citrated Blood. J. Martin Sansby, M.D., and David M. Siperstein, M.D., Minneapolis.....1763

Chronic Splenomegalic Hemolytic Jaundice: With the Isolation of a Streptococcus from the Spleen. Jacob Meyer, M.D., and Isadore Pilot, M.D., Chicago.....1766

Some Original Blood Pressure Observations. Virgil C. Kinney, M.D., Wellsville, N. Y.....1767

Intra-Uterine Transmission of Anthrax: Report of Case. Joseph C. Regan, M.D.; Abraham Litvak, M.D., and Catherine Regan, M.D., New York .....1769

Thyroidism Complicated by Heart Failure: Report of a Group of Cases. Burton E. Hamilton, M.D., Boston .....1771

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Polychrome Methylene Blue Used to Help Locate Malignancy in Tissues to be Examined Microscopically. Benjamin Taylor Terry, M.D., Nashville, Tenn.....1774

Knotting of the Duodenal Tube in Situ. F. T. Billings, M.D., Pittsburgh.1774

Simple Apparatus for Fractional Filtration by Gravity or Suction. Leland W. Parr, S.B., Chicago.....1775

A Case of Papyraceous Fetus. J. L. Mills, M.D., Winnebago, Minn...1775

MISCELLANY

The Making of Wills by Persons in Extremis. Frederick A. Fenning, LL.M., Washington, D. C.....1795

EDITORIALS

What Can Vitamins Do?.....1776

Periarterial Sympathectomy.....1776

"The Chronic Abdomen".....1777

CURRENT COMMENT

Cod Liver Oil in Tuberculosis.....1778

Pasteur and the Children.....1779

Government Would Buy Brains....1779

The Milkman Carrier.....1779

(Subject Index on next page)

ASSOCIATION NEWS 1780

Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

Copyright, 1923, by the American Medical Association NEXT ANNUAL SESSION, SAN FRANCISCO, JUNE 25-29, 1923

BOOKS

Have you the new (9th) edition of

SCUDDER'S FRACTURES?

It is being used by the U. S. Army — and Uncle Sam is a discriminating buyer.

All the new developments of the past seven years.

Cloth, $8.50 net.

# The Thinking Man's Diagnosis

Dr. Cabot's two volumes are devoted to the interpretation of symptoms, and are *sold separately*. They do not present technic of diagnosis, either physical or laboratory. The methods discussed are purely intellectual; that is, reasoning *backward* from a symptom and by elimination reaching the disease which is causing that symptom. *It is just like office practice.* The work consists of 702 case-histories selected from a total of 180,000 cases examined at the Massachusetts General Hospital. These case-histories are grouped according to the chief symptoms—the complaints which urged the patients to seek treatment. The work is a text-book of experience—*thinking man's diagnosis.*

VOLUME I (*Fourth Edition*). Headache, general abdominal pain, epigastric pain, right hypochondriac pain, left hypochondriac pain, right iliac pain, left iliac pain, axillary pain, pain in arms, pain in legs and feet, fevers, chills, coma, convulsions, weakness, cough, vomiting, hematuria, dyspnea, jaundice, and nervousness—385 cases and 21 symptom-groups.

VOLUME II (*Second Edition*). Abdominal and other tumors, vertigo, diarrhea, dyspnea, hematemesis, enlarged glands, blood in stools, swelling of face, hemoptysis, edema of legs, frequent micturition and polyuria, fainting, hoarseness, pallor, swelling of arm, delirium, palpitation and arhythmia, tremor, ascites and abdominal enlargement—317 cases and 19 symptom-groups.

By Richard C. Cabot, M.D., Professor of Clinical Medicine, Harvard Medical School. Two octavos of about 775 pages each, illustrated. Per volume: Cloth, $9.00 net. *Sold separately.*

**SAUNDERS, *Publishers***

See Page 3

## SUBJECT INDEX TO THIS ISSUE

The letters used to explain in which department the matter indexed appears are as follows: The Star (*) indicates an Original Article; "E," Editorial; "C," Correspondence; "T," Therapeutics; "Ml," Medicolegal; "P," Propaganda for Reform; "ME," Medical Economics.


Abdomen, "the chronic abdomen"....E-1777
Acid, formic, psoriasis after injection of..1819
Addison's disease, pigment production in..1819
Adenoids and physical development.....1817
Agglutinins, third iso-agglutinin and iso-agglutinogen .....1808
Anaphylaxis, antianaphylactic stage.....1818
Anemia, problem of Banti's disease.....1815
transfusion in .....ab-1800
Anesthesia, local, poisoning by.....1808
Angina pectoris, diagnosis and treatment.1812
prognosis of .....1815
Anthrax, intra-uterine transmission of...*1769
Aortitis, radiologic diagnosis of.....1815
Apparatus for fractional filtration.....*1775
Appendicitis, mononuclear count in.....1808
Arsphenamin, rectal administration.....1816
preventive treatment .....1819
Arthritis, colon bacillus vaccine in.....1812
**Association News** .....1780
Asthenia .....1814
Asthma, cardiac .....1820
tuberculosis, syphilis and.....1816
Bacillus, colon bacillus therapy and leukocytes .....1812
colon bacillus vaccine in rheumatoid arthritis .....1812
Baker's dermatitis, salt is cause of.....1812
Bile and purin metabolism.....1817
duct, nonsurgical drainage of.....1804
duct, value of Meltzer-Lyon test.....1804
Bladder, inguinal route to.....1820
Blood cells, white, effect of colon bacillus therapy on .....1812
count, sudden variations of.....1815
glycolysis in .....1818
in diphtheria .....1819
in thyroidectomized animals.....1807
intraperitoneal transfusion with citrated blood .....*1763
pressure, high, and hyperglycemia...ab-1804
pressure, high, and obesity.....1815
pressure, high, systematic purging in...1819
pressure, high, with retinitis and renal disease .....1812
pressure, observations .....*1767
pressure, spontaneous variability of....1804
serotherapy and hematotherapy.....1814
test of paternity .....1816
Bone suppuration and renal calculus....1809
"marble bones" .....1805
syphilis of .....1815
**Book Notices**.....1794
**Books Received** .....Adv. page 26
Botulism, epidemic of.....1805
Brain, hernia of brain tissue.....1817
Breast carcinoma .....*1750
Butyn, poisoning by.....1808
Camphorated oil injections.....*1761
Cancer, carcinoma dose of roentgen rays..1805
Cerebrospinal fluid in tuberculous and non-tuberculous meningitis .....1818
monosymptomatic hyperalbuminosis in, in syphilitics .....1815
Chaulmoogra oil injections.....*1761
Cholesterol crystals in anterior chamber of eye .....1817
Cocain, poisoning by .....1808
Cod liver oil in tuberculosis.....E-1778
Colon, bursting of, following pituitary extract .....1786
Constitution and convariability.....1818
Contractures, cicatricial .....1813
Convalescents, occupational therapy for...1806
**Correspondence** .....1791
**Deaths** .....1790
Dementia praecox, sex organs in.....1814
Dermatitis, baker's, salt is cause of.....1812
Diabetes, syphilitic .....1816
treatment of .....1810
yeast extract in .....1810
Diathermy in sterility.....1817
Diphtheria paralysis, Doll's eye sign in...1816
milkman carrier .....E-1779
urea in blood in .....1819
Doll's eye sign in diphtheric paralysis....1816
Duodenal tube, knotting of, in situ.....*1774
Dysentery, bacillary, at Rio.....1816
Dysthymia in children.....1814
Eclampsia, prophylactic treatment of....1810
Electric shock, cause of death in.....1810
Encephalitis, etiology of.....1817
Endocarditis, rheumatic .....1819
Epigastric tug .....1807
Erythrodermia, desquamating .....1817
Esophagus, congenital strictures of.....*1754
experimental surgery of.....1807
Eye, cholesterol crystals in anterior chamber of .....1817
Klieg, or cinema, eye.....1792
Fetus, papyraceous .....*1775
Fever, eruptive, research in.....1816
Fibroma of uterus.....1815
Filters, simple apparatus for fractional filtration .....*1775
**Foreign Letters** .....1785
Gallbladder, motor mechanism of.....*1748
Gastropexy .....*1745
German children, plight of.....1819
Goiter and involuntary nervous system..1804
regional inquiry on.....1788
treatment and prophylaxis of.....1819
Gonorrhea and spondylitis .....1813
**Government Services** .....1784
Grafts, Reverdin-Halsted grafts in wounds .....1807
Gynecology, gynecologic operations and life insurance .....1812
Hay's sulphur test of liver function.....1818
Heart, atropin test and orthostatic tachycardia in examination of nervous system of .....1813
auricular fibrillation .....1814
auricular flutter in mitral stenosis.....1805
congenitally defective heart.....1808
electrocardiograms in cantering rhythm.1814
failure and thyroidism.....*1771
life expectancy with mitral stenosis....1806
musical murmurs .....1815
Hematuria due to renal papillary varix...1809
Hemiplegia, syphilitic, treatment of.....1815
Hemolytopoietic system .....ab-1802
Histamin action, nature of.....1811
Humerus, fracture with ulnar paralysis..1813
Hyperglycemia and hypertension.....ab-1804
Infant, new-born, prevention of tuberculosis in .....1814
Infection, focal, and seminal vesicles....C-1791
Influenza, pathologic lesions in various organs in .....ab-1803
Insulin, administration by inunction.....1810
assay of .....1808
clinical use of .....ab-1799
diabetic blood sugar and.....1811
experiments with .....ab-1801
hypoglycemia, influence of nutrition on.1811
in diabetes in children.....ab-1801
in diabetic coma .....ab-1801
influence of, on normal man.....1810
Insurance, life, and gynecologic operations.1812
service, crisis in.....1785
Intestinal stasis .....1810
Jaundice, catarrhal, from pancreas inflammation .....1810
chronic splenomegalic, hemolytic.....*1766
Joints, syphilis of .....1815
Journals, new Polish Journal of Experimental Medicine .....C-1792
Kidney calculus and bone suppuration....1809
disease, functional tests in.....1820
disease, retinitis, high blood pressure and.1812
extirpation of .....*1757
function, phenolsulphonephthalein test of.1815
hematuria due to renal papillary varix..1809
ptosis, Riedel's lobe simulating.....*1755
renal disuse atrophy.....1809
Lactation and ovulation.....1811
Leukemia, myelogenous .....ab-1802
problem of .....ab-1800
Liver function, Hay's sulphur test of....1818
hydatid cysts in.....1817
perfused, retention of inorganic iron in..1818
Locusts, seventeen year .....1792
Lung, abscess of.....ab-1803
massive collapse of.....ab-1803
syphilis of .....1812
**Marriages** .....1789
**Medical Education, Registration**.....1793
**Medicolegal** .....1798
Melancholia, depressive, with asthenia and melanoderma .....1814
Melanoderma .....1814
Meningitis of otitic origin.....1815
tuberculous, cutaneous reactions in.....1818
Metasyphilis .....1819
Methylene blue to locate malignancy in tissues .....*1774
Milkman carrier .....E-1779
Myiasis, ethyl chlorid in.....1816
Myxedema, blood in.....1805
Nephritis, nephrosis and glomerulonephritis .....1820
surgical treatment .....1820
without albuminuria .....1815
Nephroptosis, Riedel's lobe simulating...*1755
Nephrosis and glomerulonephritis.....1820
Nerve, ulnar, tardy paralysis of.....1813
Nervous system, action of pilocarpin on..1807
autonomic imbalance .....ab-1804
**New and Nonofficial Remedies**.....1778
**News** .....1780
Obesity and hypertension.....1815
Olecranon, fracture, fixation of.....1813
Osteopaths held to be "regular practicing physicians" .....1797
Ovulation and lactation .....1811
Pancreas inflammation causing catarrhal jaundice .....1810
Paraffin injections .....*1761
Paralysis, toxic, of leg.....1816
Parathyroid glands .....1792
Parkinson's disease, parathyroid treatment of .....1819
Pasteur and the children.....E-1779
centenary of, at Strasbourg.....1787
Patent office, government would buy brains .....E-1779
Paternity, biologic demonstration of.....1816
Petrolatum, liquid, in parenteral injections .....*1761
Physiology, surgical .....1813
Pilocarpin, action of, on nervous system..1807
Pituitary secretion .....1811
extract, danger of.....C-1791
extract, bursting of colon following....1786
Pleurisy, calcium chlorid in.....1813
Pneumoperitoneum, diagnostic value of...1805
Pregnancy, abdominal .....1809
and syphilis .....1815
and tuberculosis .....1814
tubal and angular pregnancy.....1814
Prostate, absence of, with endocrine disease .....1807
Proteins, specific and nonspecific action of.1820
Psoriasis from formic acid.....1819
Psychiatry, training of physician in.....1786
Psychology, applied, experimental.....1814
Puerperal infection .....1818
Purin and bile metabolism.....1817
Pyelotomy .....*1757
**Queries and Minor Notes**.....1792
Retinitis, high blood pressure and renal disease .....1812
Rheumatism and rheumatic endocarditis...1819
Riedel's lobe simulating nephroptosis....*1755
Roentgen rays, so-called "carcinoma dose" of .....1805
Salt is cause of baker's dermatitis.....1812
Secretions, internal, absence of prostate with endocrine disease.....1807
pluriglandular insufficiency .....1817
Seminal vesicle contents in cadaver.....1820
and focal infection.....C-1791
Serotherapy and hematotherapy .....1814
Sheep-pox, ten years of vaccination against.1813
**Society Proceedings** .....1799
Spider bite .....1808
Spondylitis and gonorrhea .....1813
**State Board Examinations**.....1793
Sterility, diathermy in .....1817
Stomach, cancer, resection of pylorus in.1820
ptosis .....*1745
ulcer, experimental production of.....1806
Surgery, surgical physiology.....1813
Sympathectomy, periarterial .....E-1776
Syphilis and pregnancy.....1815
asthma, tuberculosis and.....1816
in 4 generations.....1816
spinal fluid in.....1815
syphilitic diabetes .....1816
Tenia infestation, treatment of.....1813
Testicles, transplantation of gonads.....1820
Testimony, expert, and alienist.....1806
Tetrahydronaphthalene (tetralin), formula of .....C-1791
Thymus, dysthymia in children.....1814
Thyroid disease, metabolism in.....1807
thyroidism and heart failure.....*1771
Thyroidectomy, calcium in blood of thyroidectomized animals .....1807
**Tonics and Sedatives**.....Adv. page 22
Tonsils as portal of infection.....1818
Trachea, displacement of, in tuberculosis..1816
Trichiniasis epidemic .....1805
Trypanosomiasis, treatment of.....1813
Tuberculosis, ambulatory treatment of...1819
and pregnancy .....1814
asthma, syphilis and.....1816
cod liver oil in.....E-1778
displacement of trachea in.....1816
in new-born, prevention of.....1814
Tumor, epigastric tug.....1807
Typhoid bacilli, experimental infection with.1818
Ultraviolet rays, therapeutic effects of..ab-1803
Ureterolysis .....*1757
Uterus, fibroma of, causing death.....1815
sarcoma of .....1806
Vitamins, what can vitamins do?.....E-1776
Vomiting, vagotonic, treatment of.....1817
Wassermann, effect of mercurials on.....1808
Wills, making of, by persons in extremis.1795
Wounds, Reverdin-Halsted grafts in.....1807
Yeast extract in diabetes.....1810



JUST READY

CROSS & COLE'S MODERN MICROSCOPY New fifth edition $3.50
*All American and English Monographs*
CHICAGO MEDICAL BOOK COMPANY Congress & Honore Sts., Chicago

HAVE YOU SUBSCRIBED FOR HYGEIA See Page 38

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. 80, NO. 24 CHICAGO, ILLINOIS JUNE 16, 1923


## GASTROPEXY BY SHORTENING THE GASTROHEPATIC OMENTUM

### WITH ANATOMIC AND PHYSIOLOGIC CONSIDERATIONS


JOHN J. GILBRIDE, A.M., M.D.

PHILADELPHIA


I cannot agree with those clinicians and roentgenologists who are so liberal in their interpretations as to say that the stomach is within its normal limits, irrespective of its size and shape or of the position it may occupy in the abdomen. Under peristaltic action, the stomach descends and elongates as well as contracts. A stomach that descends into the pelvis is not only dislocated but also markedly dilated. The anatomic changes, important as they are, may not be regarded seriously, but the functional derangement with impaired motility, altered secretion and disturbed sensation cannot be dismissed without more serious consideration.

From the clinical standpoint, practically all of the cases of gastroptosis may be divided into two groups: (1) Those cases in which the abdomen is large and pendulous, a condition most commonly found in multiparous women in whom the abdominal walls are thin, relaxed, wasted and atrophied; and (2) the so-called virginal type (Rovsing), in which the abdomen is long and narrow.

There are two fundamental principles in the treatment of gastroptosis whether the treatment is medical or surgical: (1) the support of the stomach to relieve the dragging on its ligamentary attachments, and (2) the building up of nutrition.

Medical treatment gives a measure of relief in the majority of cases of gastroptosis. When it is effective, it brings about improvement, usually within a short time. As a matter of fact, most of the patients express a feeling of well-being immediately after a well fitting abdominal belt or support has been applied. This treatment is best suited for patients with relaxed, pendulous abdomens. External abdominal supports rarely give satisfactory results in patients belonging to the second group, because in these cases the abdomen is flat and the iliac bones are prominent, so that pressure cannot be applied satisfactorily below the prolapsed stomach.

Patients who are improving under medical treatment do not consent readily to operations, and I do not know of any one who would advise an operation under these circumstances. Only those patients who do not respond to medical measures are considered for operation. It is my belief that many of these patients should be operated on unless there are contraindications to operation. It is not fair to the patient to continue medical treatment when it has been given a good and fair trial and it has been shown that improvement has not taken place—provided, however, we have something further to offer. I feel certain that surgery has much to offer in properly selected patients, who would otherwise drift from one physician or clinic, as the case may be, to another, only to receive a repetition of the treatment that has given the patient no results. As I see it, there is no competition here between medical and surgical treatment. It is a case of rescuing some of these human derelicts.

In cases of the first group, medical treatment has its field for application and usefulness. Surgery, if it is used at all in cases of this type, must be cautiously employed, because not only is there a prolapse of the abdominal viscera, but the whole gastro-intestinal tube is usually dilated; and although the abdomen is greatly increased in size, there does not seem to be room within it to hold its contents. Visceroptosis, combined with the ever present hypomotility of gastro-intestinal atony, is not a field for any form of fixation surgical procedure or short circuiting operation. These are the pathologic rocks on which both the operator and the patient come to grief.

I have operated on seven patients. The immediate and ultimate results have been very gratifying. There were six women and one man. The operation that I performed was strictly an anatomic and physiologic procedure. The stomach was not fixed, but it was placed in a position which greatly facilitated a restoration of its functions. In one of these cases I had roentgenograms taken before and after operation. In the other six cases I made the diagnosis clinically. I would not have had a roentgen-ray examination in this one case had not the patient complained of much pain and tenderness in the region of the lesser curvature. I thought that an ulcer might be present, although there was no other evidence that pointed to the existence of an ulcer. I wanted to decide before the operation whether an ulcer was present. This was decided in the negative.

CASE 1.—*History.*—Mrs. D., aged 28, white, born in the United States, a housekeeper, referred to me, May 1, 1922, by Dr. William B. Scull of Philadelphia, was the mother of one child, aged 7; there was no other pregnancy. Indigestion had been present off and on during the preceding ten years. For the last year she had complained of constant pain and distress in the epigastrium. These symptoms were made worse after eating or drinking anything, so that she tried to live on as little food as possible. There were attacks of nausea every morning, and on two or three mornings a week she would vomit several ounces of a sour, greenish liquid. There was a gnawing sensation in the stomach almost all the time. The appetite was good, but she was afraid to eat. The bowels were constipated. There was a loss of 25 pounds (11 kg.).

*Examination.*—The patient was tall and thin, and was of fair color and poor nutrition. The mouth and teeth were in good condition. The chest was long and narrow, with the epigastric angle acute. The lungs were normal. The heart

was accelerated, with the pulse rate 100 a minute. The abdomen was long, narrow and flat, with good muscular development. Palpation of the abdomen showed fulness in the left side, and the sigmoid flexure of the colon was palpable. Inflation of the stomach showed that the greater curvature descended into the pelvis; and the lesser curvature descended vertically to the left of the umbilicus, and crossed

Fig. 1 (Case 1).—Extension of stomach into pelvis before operation; patient in prone position.

the lower abdomen midway between the umbilicus and the symphysis pubis. Auscultation over the pylorus during digestion revealed peristaltic sounds at intervals of one minute. This was somewhat delayed. Webster's and Stiller's signs were absent. The liver was palpable below the costal margin. The kidneys were not palpable.

The gastric contents, examined after an Ewald test meal, showed a total acidity of 40; free hydrochloric acid was absent. Digestion was fair. The test for occult blood was negative. The urine was normal. The feces were negative for occult blood. A blood examination, July 6, revealed erythrocytes, 3,400,000; leukocytes, 7,000; hemoglobin, 70 per cent.

Roentgen-ray examination, made by Dr. George E. Pfahler, at the Medico-Chirurgical Hospital, June 21, disclosed a marked ptosis of the stomach, but gave no evidence of organic disease about the stomach or duodenum. The greater curvature of the stomach sagged well down into the pelvis. The stomach was hypotonic. Peristalsis was feeble and sluggish. There was a great deal of tenderness in the epigastric region, but there was no evidence of organic disease of the gastrointestinal tube. The diagnosis was gastroptosis with gastrointestinal atony.

*Operation and Result.*—July 8, at St. Mary's Hospital, under gas and oxygen anesthesia, an incision was made through the upper part of the right rectus muscle, and the peritoneal cavity was opened in the usual manner. The stomach was drawn up so as to relax the gastrohepatic omentum. This structure was stretched out, and in many places it was as thin as tissue paper. Retractors were placed in the wound. Only one gauze sponge was placed inside the abdomen, between a retractor and the liver to hold that organ out of the way. Three continuous mattress sutures of No. 1 chromic gut were introduced into the gastrohepatic omentum to shorten that structure by pleating it and thereby elevate the stomach. The sutures were introduced from left to right and caught with hemostatic forceps. The first suture began in the lesser curvature and near the cardiac orifice of the stomach. The suture included the serous and muscular coats of the stomach, passed in front of the vessels of the lesser curvature, and as a continuous mattress suture included the gastrohepatic and gastrophrenic ligaments up to the under surface of the liver. It was then continued downward to the stomach to the point of starting.

The second suture was introduced in a similar manner to the first, and at about the center of the lesser curvature. The third suture was placed at the pylorus. The stomach was brought close to the under surface of the liver, and the first, the second, and then the third suture was tied. The stomach was thereby elevated to practically its normal position. The sutures were tied only sufficiently tight to bring the pleated folds of the suspensory ligaments of the stomach exactly into apposition. There was no other structure that required surgical interference, and the abdomen was closed. The outer covering of the pyloric end of the stomach and the duodenum was deeply injected, and the duodenum was dilated to the size of the transverse colon. The convalescence of the patient was uneventful. She got out of bed on the twelfth day, and the next day, the thirteenth day after the operation, the second roentgenogram was taken with the patient standing (Fig. 2). This roentgenogram shows that, although the stomach was hugely dilated, it had been elevated about 4 inches

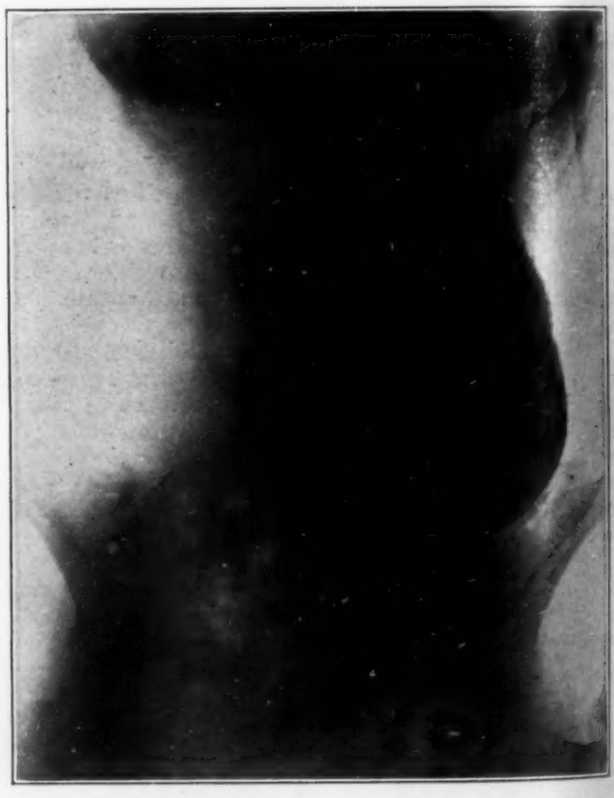


Fig. 2 (Case 1).—Position of stomach thirteen days after operation; patient standing; the dilated stomach has been elevated about 4 inches.

as compared with Figure 1, in which the roentgenogram was taken with the patient in the recumbent posture. In Figure 3, the roentgenogram shows the position of the stomach, August 21, one month after the second picture was taken, and six weeks after the operation. The stomach is shown to be elevated well up out of the pelvis, and it exhibits good peristaltic contractions, which it did not show before the operation. The patient consulted me, September 25 and again, October 15. Although she had disregarded dietetic instructions and had

eaten all kinds of food, she stated that she was entirely free from stomach symptoms. Her condition was good.

The gastrohepatic omentum was pleated or puckered and drawn together when the sutures were tightened. I believe that this procedure adds greatly to the support of the stomach. It is a simpler operation than the one introduced by my friend Dr. Henry Beyea. In Figure 6 I have compared, in a diagrammatic way, the two methods of shortening the gastrohepatic omentum. The method I used is illustrated at *a*, showing the suture before it was tightened; *b* represents the mechanical result of shortening by the Beyea method. The latter operation does not increase the strength of the omental support of the stomach. The pleated omentum lessens the likelihood of a recurrence of the gastroptosis. The stomach is elevated by its normal ligamentary supports.

Fig. 3 (Case 1).—Appearance of stomach six weeks after operation; patient in prone position; the stomach has been reduced in size.

This does not interfere with the motility of the stomach. On the contrary, the stomach is placed in a position which enables that organ to have its normal motility restored.

The sutures in the gastrohepatic omentum do not pass round or under the vessels of the lesser curvature, but they are passed in front of the vessels. The needle, when it is introduced into the stomach wall, is parallel to the long axis of the stomach. Therefore, no risk is incurred of cutting off the circulation in these vessels. It is a good idea to avoid puncturing the veins in the gastrohepatic omentum; not that it does any harm, but it saves time and trouble.

The operations of Duret and Rovsing are fixation operations. In the Coffey operation, the great omentum is attached to the abdominal wall. Other operations have been devised by Hartmann, Eve, Davis and Ransohoff. Any operation that solders the stomach to the liver is almost as objectionable as an operation that solders the stomach to the abdominal wall. That is a condition which should be avoided as far as possible. The Beyea operation and the one that I have described here are anatomic and physiologic in principle.

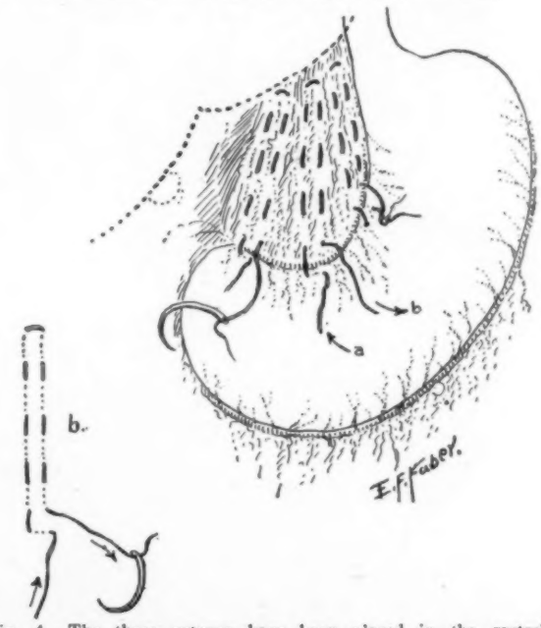



Fig. 4.—The three sutures have been placed in the gastrohepatic omentum; the arrows *a* and *b* illustrate the direction of the sutures; the sutures were passed in front of the vessels of the lesser curvature; the inset, *b*, shows a single suture.

The first patient on whom I performed this operation was referred to me by Dr. Samuel Falls of Philadelphia:

CASE 2.—A man, aged 52, white, born in the United States, an automobile mechanician, whose height was 6 feet and 1 inch (185 cm.) and whose weight was 130 pounds (60 kg.), complained of indigestion off and on nearly all of his life. Fulness, distress, and a sense of weight in the stomach after meals caused him to eat but little. There had been a gradual loss of weight and strength. He had not been able to work during the preceding two months, and he had worked only irregularly during the previous year. The stomach descended into the pelvis. Operation was performed, July 12, 1918. The patient made a good recovery, and he returned to work in six weeks. He has remained well and at work ever since.

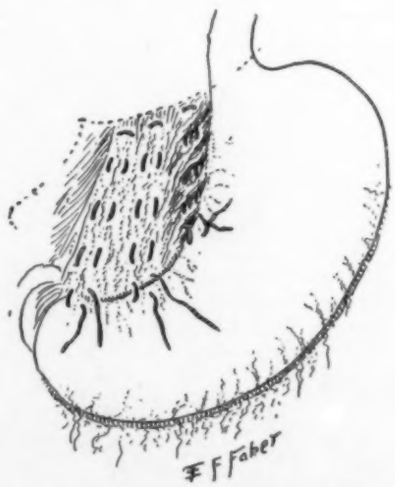



Fig. 5.—The first suture has been tightened slightly.

PULMONARY TUBERCULOSIS AND GASTROPTOSIS

In the dissecting room I have often seen tuberculosis of the lungs and gastroptosis associated, more particularly the association of tuberculosis with coloptosis in which the transverse part of an M or a U shaped colon rested on the floor of the pelvis. Under these conditions it was not surprising to note the presence of tuber-

culosis. This was of a comparatively common occurrence. The following observation of the development of tuberculosis in a patient with gastroptosis may be of interest, and I will give it for what it is worth:

Oct. 20, 1921, Dr. William H. Schellhamer of York, Pa., referred to me a single woman, aged 28, who had complained

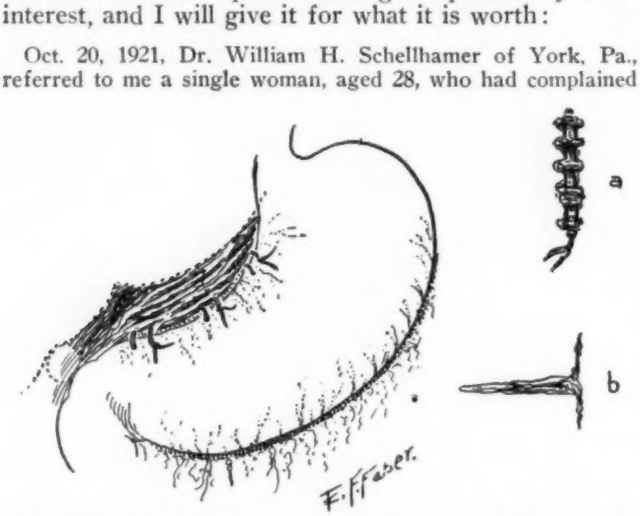



Fig. 6.—The sutures have all been tied: *a*, front view of a single suture in the gastrohepatic omentum before the suture has been tightened; *b*, side view of the mechanical result of shortening the omentum by the Beyea method.

of fulness and distress in the stomach, loss of appetite and a gradual loss of weight extending over a period of several years. She had not been able to work for the previous three months. Examination showed that she had a gastroptosis, for which condition I advised an operation. To this she

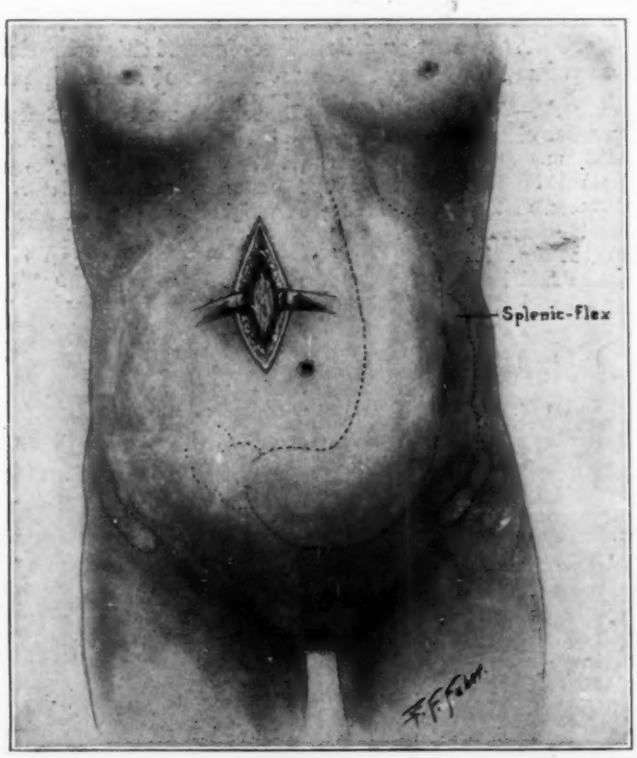



Fig. 7.—Position of stomach, and moderate ptosis of splenic flexure of colon; retractors have been placed in the abdominal incision.

refused to give her consent. There was nothing in the history nor any clinical evidence of tuberculosis of the lungs at the time. Dr. William A. Schmidt, roentgenologist at St. Mary's Hospital, made a fluoroscopic examination of the thorax and gastro-intestinal tract, which showed that the chest was clear and that the heart, lungs and esophagus appeared to be normal. The stomach filled normally, it was fish-hook in shape, and the lower border was 4 inches below the iliac crest. Peristalsis was very sluggish, and the duodenal cap filled only after manipulation. The examination showed no filling defect of the stomach or duodenum. There was a slight residue in the stomach after six hours, and the six hour barium meal was entirely in the small intestine, none of it having reached the cecum. The diagnosis was atony of the stomach and gastroenteroptosis. Dr. Schellhamer informed me several months later that the patient had developed an active tuberculosis of the lungs. She died in April, 1922. She had a long, flat, narrow abdomen, with good muscle tone.

The histories of many of these cases of gastroptosis are quite similar. However, the diagnosis is made by clinical examination and by the roentgen ray.

In the seven patients that were operated on, the right kidney was palpable in three; a moderate ptosis of the transverse colon was present in all of the cases; the splenic flexure of the colon had dropped about 4 inches in three cases. It is well not to do too much, and I believe that it is unnecessary to do anything more than to raise the stomach. Intelligent postoperative treatment is absolutely necessary to obtain the best results.

1934 Chestnut Street.

---

## THE MOTOR MECHANISM OF THE GALLBLADDER

ASHER WINKELSTEIN, M.D.
NEW YORK

The Meltzer-Lyon test for disease of the biliary tract has aroused a renewed interest in the motor mechanism of the gallbladder. Despite the large amount of research devoted to it, this phase of the physiology of the gallbladder remains quite obscure. I was convinced of this during some experimental studies on the excretion of foreign-body dyestuffs in the gastro-intestinal tract which I carried on in Professor Bickel's biologic laboratory in the University of Berlin.

It was found that the secretion in the bile of a subcutaneously injected dyestuff, specifically indigocarmin, was entirely ended in from eight to fifteen hours in a complete gallbladder fistula dog (i. e., one with the ductus choledochus ligated), while in a normal dog, not operated on, indigocarmin-colored bile remained in the gallbladder from four to five days. At the end of two weeks, the bile in the gallbladder was found uncolored by the dye. (The exact intermediate end-point is now under investigation). This signifies that the motor activities of the gallbladder are quite slight. Furthermore, this differs so much from the usual conception, which is that of a gallbladder actively contracting and emptying itself of its bile content following the ingestion of a meal, that further experimental investigation seemed desirable. A series of studies was therefore undertaken, the conclusions of which have recently been published briefly. The experimental work done in these studies will be described here, with a short discussion of its physiologic and practical significance.

One finds in the literature [1] many contradictory statements and many conflicting results. This is probably due to inadequate and inappropriate methods of experimentation. The ideal, and perhaps the only proper physiologic method of studying the motor function of the gallbladder, would be to observe its movements in the closed abdominal cavity. Many

1. Excellent references to the literature on the physiology of the gallbladder are given by Mann, F. C., and Giordano, A. S.: The Bile Factor in Pancreatitis, Arch. Surg. **6**: 1 (Jan.) 1923. Auster, L. S., and Crohn, B. B.: Physiology of the Gallbladder, Am. J. M. Sc. **164**: 345 (Sept.) 1922. My own article embodying briefly the conclusions of the above work appeared in the Klinische Wochenschrift, Feb. 26, 1923.

previous studies may be seen to be invalid when one considers how unphysiologic is the approach through an opened abdominal cavity or an operated gallbladder.

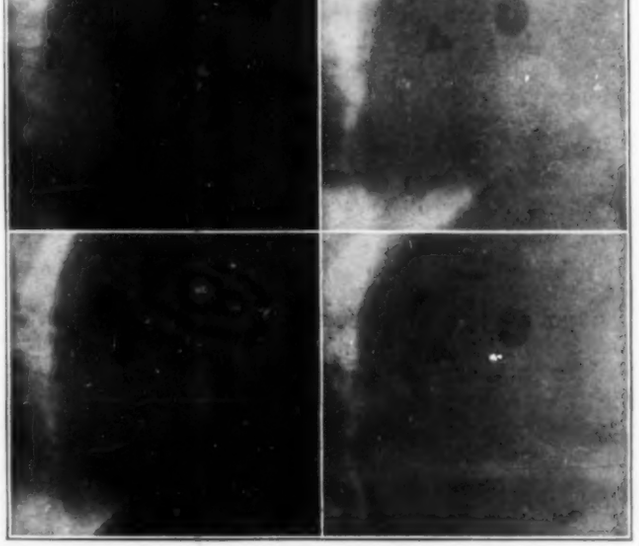
The solution of this difficulty occurred to me in the utilization of the following technic: Four very small, light, flat disks of silver were sewed in quadrilateral arrangement on the serosa of the ventral wall of the dog's gallbladder. When the laparotomy wound was completely healed, the animal was studied roentgenologically. The accompanying illustration demonstrates the definite outline thus obtained.

With the aid of this procedure, it was found that during the fasting state, on the exhibition of food, when food was in the stomach, at the instant of entrance into the duodenum, and during the duodenal passage of food, there occurred no approximating motion of the metal buttons. In other animals, there was introduced in addition to this method a duodenal fistula opposite the papilla of Vater. Various solutions of magnesium sulphate, hydrochloric acid, sodium chlorid and peptone were then injected through the fistula. A contractile movement was, however, not seen. Furthermore, a definite decrease in the size of the outline of the gallbladder after a meal or an injection was not apparent, indicating that an appreciable emptying did not occur. The only motion seen was a definite craniocaudal rhythmic approximation of the disks with each inspiration. The importance of this hitherto unobserved phenomenon will be discussed later. Postmortem investigation revealed no adherence of the silver platelets or of the gallbladder wall to the surrounding structures. It might be mentioned at this point that, with this new technic, further studies, particularly of the action of drugs which affect the vegetative nervous system, are now being carried on.

From these observations, it seems that a contractile emptying of the gallbladder, if it occurs at all, can be only slight and so of little significance. Since, however, the dyestuff studies had demonstrated that the gallbladder sooner or later does empty, an aspirating mechanism suggested itself. But this idea was disproved by the following experiment: After the bile was colored by an injection of methylene blue into the gallbladder, a glass cannula was tied in the ductus hepaticus, and ordinary clear dog bile was forced through the duct system at different pressures. Only bile unstained by methylene blue appeared at the papilla of Vater or at the separated end of the ductus choledochus.

During this experiment it was observed that the manual pressure necessary to force bile out of the gallbladder and through the ductus choledochus into the duodenum when the papilla of Vater and its sphincter were retained was considerable, whereas it seemed quite minimal when the ductus choledochus was deprived of these structures. This, together with the foregoing observations, namely, (*a*) the eventual emptying of the gallbladder, (*b*) the failure of an aspirating mechanism, (*c*) the apparent absence of a contractile or peristaltic movement and (*d*) the change in the outline of the gallbladder synchronous with respiration, led to the following proposition: If the gallbladder has a definite elasticity (and this probably results from a tonus tension of its muscular wall about its content so as to permit distensibility changes), then the changes in the intra-abdominal pressures during respiration must influence its volume. Are these pressures sufficient to express some bile from the gallbladder? This question can be answered affirmatively, since it was found that the pressure necessary to drive bile out of the gallbladder into the duodenum when the papilla of Vater was relaxed (or its approximate equivalent, viz., a separated duct, a lateral prepapillary opening, or a glass tube in the papilla) was less than the pressure normally exerted at the height of inspiration in the immediate location of the gallbladder.

These pressures were measured in the following manner: A rubber balloon, the size of a moderately distended gallbladder, was placed in the location of the gallbladder, and connected through the closed abdominal wall wound to a water manometer. A minimal value of 20 mm., and, with moderately increased respiration, an average value of from 80 to 100 mm. water pressure, was found at the height of inspiration. The pressure at the end of expiration was zero. It may be said, then, that in the normal animal, a pressure of from 80 to 100 mm. is thrown on the gallbladder at the height of each inspiration.



Outline of the fundus of the gallbladder obtained by four roentgenograms taken successively.

Then the pressure necessary to empty the gallbladder was investigated by invaginating the gallbladder in a rubber sac, enveloped in undistensible canvas, and connected with a water manometer so arranged that various pressures could be put on the gallbladder. With the sphincter of Oddi closed, from 110 to 120 mm. pressure was needed to overcome its tonus; but when the papilla was relaxed or, rather, its equivalent substituted, 15 mm. pressure, merely, was sufficient to drive out, at each application of that pressure, a tiny amount of gallbladder bile. At 10 mm., however, none appeared.

It seems apparent, therefore, that each normal inspiration when the papilla is open is sufficient to effect a passage into the duodenum of a tiny amount of gallbladder bile. This is not true when the papilla of Vater is closed. The emptying proceeds in a most gradual and incomplete manner; hence the persistence of dye-colored bile in the gallbladder for days after the liver bile is free from the dyestuff. Peristaltic or contractile motions of the musculature, if they occur at all, can play only a very subordinate rôle in the emptying act.

What happens when the papilla of Vater is closed forms a very important problem. The relationship

existing between intraductal and gallbladder bile, and also the filling mechanism, can probably be explained, in terms of differential pressures. The possibilities are (1) a constant inflow of liver bile with or without any interchange of duct and gallbladder bile; (2) an ebb and flow again with or without interchange; (3) an inflow only at the expiration phase, or (4) merely a change in the form of the gallbladder without any interchange. These fascinating possibilities are being studied, and, together with a study of the mechanism of the sphincter papilli, will form the content of a future communication.

Many practical applications of these physiologic observations, of course, immediately suggest themselves. Among these may be mentioned (*a*) an explanation of gallbladder stasis, (*b*) some new prophylactic and therapeutic measures in cholelithiasis and cholecystitis, (*c*) a renewed study and evaluation of the Meltzer-Lyon test, and (*d*) an improved diagnostic method for disease of the gallbladder. These and other clinical applications are now being investigated.

SUMMARY

1. A definite specimen of bile can remain at least four or five days in the gallbladder. The latter is, however, eventually emptied of that definite specimen, although the act is very gradual.

2. The only movement seen roentgenologically in the closed abdominal cavity is an alternate contraction and expansion of the gallbladder outline synchronous with respiration. A contractile emptying of the gallbladder following a meal, if it occurs at all, is only of minimal character and significance.

3. The intra-abdominal pressure at the height of inspiration is insufficient to force bile out of the gallbladder into the duodenum when the papilla of Vater is closed.

4. The pressure necessary to drive bile from the gallbladder into the duodenum when the papilla is relaxed is less than is exerted in the location of the gallbladder at the height of a normal inspiration.

5. It is, therefore, concluded that the respiratory act is the chief factor in the emptying of the gallbladder; i. e., the respiration is the motor of the gallbladder.

15 West Eighty-Ninth Street.

**Acute Infectious Fevers as Predisposing Causes of Tuberculosis.**—Scarlet fever, influenza, colds, and all diseases which lower resistance, impair nourishment, and increase the stress of life at any age must be reckoned with as important factors in tuberculosis. The importance of typhoid fever is shown in the fact that the general death rate among survivors is more than twice that among persons who have never had typhoid. Of those who recover from typhoid but die from other causes within three years, 39 per cent. succumb to tuberculosis.—F. C. Smith, *Public Health Rep.* **38**:781 (April 23) 1923.

# BREAST CARCINOMA TREATED SURGICALLY AND BY ROENTGEN RAY

## CLINICAL AND POSTMORTEM FINDINGS IN TWO CASES *

CASSIE B. ROSE, M.D.
CHICAGO

Several roentgenologists have reported a dense shadow appearing on the roentgenograms of the chest of patients who have received roentgen-ray treatment over the thorax. The exact causation of this shadow has been in doubt. Carcinoma of the lung, pleural thickening, pleural effusion, and fibrosis due to the roentgen-ray treatment have been offered as possible explanations.

In 1922, Tyler and Blackman [1] reported seven cases in which a dense shadow appeared on roentgenograms of the chest following heavy irradiation of the thorax for carcinoma of the breast, and suggested that the change might be due to a fibrous thickening of the pleura and lungs as a result of the roentgen-ray therapy. There were no necropsies in this group.

Fig. 1 (Case 1).—Section of tumor, slightly reduced from a photomicrograph with a magnification of 100 diameters.

In similar cases reported by Drs. Pfahler, Groover and Case in the discussion of the article by Tyler and Blackman there were likewise no necropsies.

Dr. Pfahler was of the opinion that roentgen rays might change a malignant into a fibrotic process, or that a preexisting fibrotic process might be stimulated by the roentgen rays.

Dr. Groover felt that the roentgen rays either caused these lung changes or else had something to do with the development and spread of metastatic foci therein, and that, at least in certain instances, definite changes in the lung may be produced by the roentgen ray without a preexisting cancer focus.

Dr. Case believed that part of these changes could be accounted for by pleural irritation, and that part were of a pneumonic nature.

All agreed that without necropsies one should be careful about drawing conclusions.

In December, 1922, Case [2] mentioned pleural effusion among the "untoward results in deep roentgen-ray therapy," although he did not feel that the roentgen ray necessarily caused the effusion. Dr. E. L. Jenkinson [3] stated that in the course of the treatment of mediastinal tumors a pleural effusion may develop after moderate treatment, and sometimes clears up after more intensive irradiation.

Two cases of breast carcinoma, with clinical and necropsy findings are offered here as a contribution to

* Read before the Chicago Roentgen Ray Society, March 23, 1923.

1. Tyler, A. F., and Blackman, J. R.: J. Radiol. **3**: 469 (Nov.) 1922.
2. Case: Untoward Results in Deep X-Ray Therapy, read before the Radiological Society of North America, Detroit, December, 1922.
3. Jenkinson: X-Ray Therapy of Cancer, read before the Radiological Society of North America, Detroit, December, 1922.

the study of roentgen-ray therapy. Both cases were treated surgically and by the roentgen ray, and in both a heavy shadow appeared on the chest roentgenograms after a considerable amount of exposure.

## REPORT OF CASES

CASE 1.—Mrs. M. S., aged 50, entered the Presbyterian Hospital, Jan. 28, 1918, to the service of Dr. A. D. Bevan, complaining of two small nodules in the region of the right breast. In June, 1914, she noticed a small nodule in the right breast. In eight months this tumor grew to the size of a walnut. In February, 1915, it was removed, together with the nipple. A second nodule developed in the same breast about a year later. This was removed, with the rest of the breast tissue and the pectoralis major muscle, in August, 1916.

On entering the Presbyterian Hospital, the patient was in good general health. Two bean-sized, hard, rather fixed nodules were present in the scar, and the right axillary glands were enlarged. No other pathologic changes were found.

A radical removal of all tissues down to and including the pectoralis minor muscle, together with the right axillary glands, was done by Dr. Bevan, Jan. 29, 1918. Microscopic examination of this tissue revealed mammary carcinoma (Fig. 1). February 20, after the wound had healed, roentgen-ray treatment was begun. The dosage was 50 milliampere minutes, 9-inch spark gap, 10-inch distance, 4 mm. aluminum and sole leather filter, covering one circular area 15 cm. in diameter at each treatment. Both sides of the chest, anteriorly and posteriorly, both supraclavicular fossae, and both axillae were treated. Treatments were given as indicated in Figure 2. It will be noticed that treatments were given most frequently in the first few months. Later treatments were given at irregular intervals, with rest periods up to five months.

A notation on the roentgen-ray treatment record of March 8, 1921, says: "Patient in good condition. No glands palpable. No evidence of recurrence found." The patient continued well and worked as a seamstress up to June, 1921. June 15, she complained of a cough and shortness of breath, which had been progressively increasing for about two weeks. On physical examination by Dr. F. C. Straus, there was dulness over the right side on percussion, with bronchial breathing and bronchophony on auscultation.

Roentgenograms of the chest, taken June 17, 1921 (Fig. 3) show a heavy, mottled shadow in the right lung field below the level of the fourth dorsal vertebra. This area contains evidence of thickened lung markings, which at least partly account for the mottling. The general density of this region grows a little heavier toward the lung base. The right side of the heart, and the right diaphragm outlines are indistinct. The trachea is deviated to the right. The left lung field is clear.

During July and August, the patient was considerably improved, as the result, apparently, of rest and the roentgen-ray treatment. In September, she complained of loss of appetite, frequent cough, and gradual loss of strength. Chest examination showed marked dulness over the right side, and on auscultation there was bronchial breathing and bronchophony.

Late in October, the patient overtaxed her strength nursing her son, and became bedfast. Even attempts to change her position in bed caused cough and dyspnea, so severe that morphin was given. The appetite was very poor, the color yellowish, and the breath had a very foul odor. After two weeks' rest, the patient felt somewhat better.

December 1, the right chest showed marked dulness anteriorly, with bronchophony and tubular breath sounds. There was flatness posteriorly to the seventh interspace. The left chest gave negative findings.

From September to December, the patient was brought to the hospital (by taxicab and wheel chair), at weekly intervals, for treatment, as she felt that the roentgen ray was her only hope for life.

December 13, when she came for her last treatment, she was feeling a little better, though her general complaint was the same. She had lost considerable weight, but was not extremely emaciated.

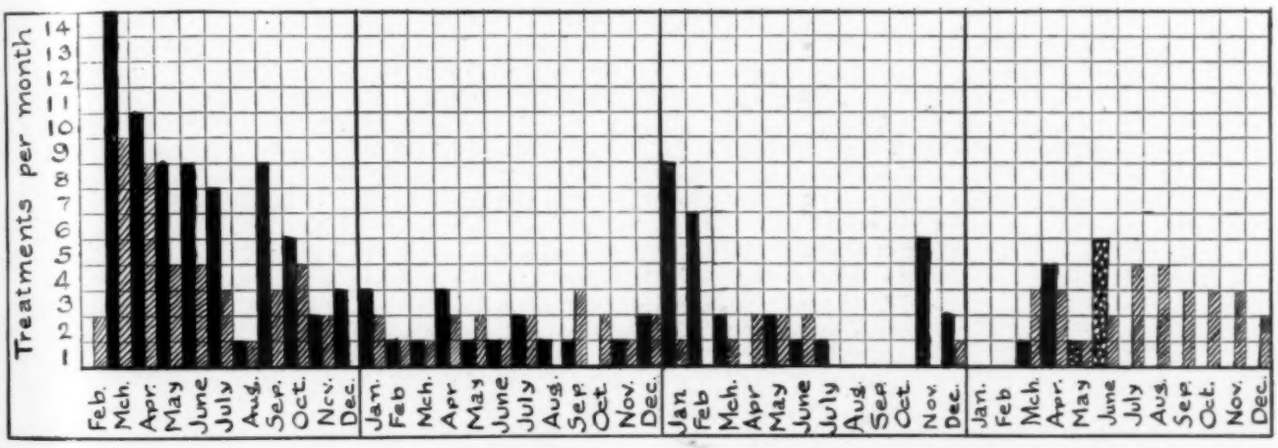



Fig. 2.—Amount of roentgen-ray treatment given each patient. Each treatment consisted of 50 milliampere minutes, 9-inch spark gap, 10-inch distance, 4 mm. aluminum and sole leather filter, covering one circular area 15 cm. in diameter. Each small square represents one such treatment. Shaded areas for Case 1; solid areas for Case 2; dotted areas indicate massive high voltage irradiation given in Case 2. The first treatment in Case 1 was given Feb. 20, 1918; the first treatment in Case 2, March 1, 1919.

December 27, a bronchopneumonia developed on the left side. The patient died, Dec. 30, 1921.

From the time roentgen-ray treatment was begun in February, 1918—to the time the chest symptoms developed, in June, 1921—the patient had received a total of 2,300 milliampere minutes over the right side, and 1,450 milliampere minutes over the left side. From June 17, 1921, after the appearance of the chest symptoms, to Dec. 13, 1921, the patient received a total dosage of 600 milliampere minutes over the right, and 450 milliampere minutes over the left side of the chest.

The necropsy was conducted by Dr. H. A. Oberhelman of the Presbyterian Hospital. The skin of both sides of the chest was brown, scaly and indurated and contained an increased amount of fibrous tissue. The intercostal muscles were almost entirely replaced by fibrous tissue on the right, partially on the left. The ribs on the right side were atrophied; those on the left were not. The right chest cavity was filled with a light yellow fluid with a few flakes of fibrin free in it. This fluid was so abundant that the right lung was compressed and pushed tightly against the mediastinum. The entire right lung was completely atelectatic, and scarcely filled a hand. The right pleura, both visceral and parietal, was covered with a very fine irregular layer of fibrin. No tubercles were present on the pleura. There was one dense adhesion at the apex of the right lung, 1 cm. in diameter. In the lung tissue, under this adhesion, was a nodule from 5 to 7 mm. in diameter, containing a cavity from 3 to 4 mm. in diameter, surrounded

by dense fibrous tissue, which extended close to the visceral pleura. There was one similar nodule, without cavity, near the apex. These were tuberculous lesions, and were the only evidence of tuberculosis found. The left chest cavity contained 500 c.c. of serosanguineous fluid. A definite bronchopneumonia was present in the lower lobe of the left lung. An acute pyelo-ureterocystitis was present. There were no other noteworthy findings.

Microscopic sections of the right lung showed marked increase of fibrous tissue around the small bronchi and blood vessels. The alveoli were almost completely obliterated, their walls being in apposition, as from compression atelectasis. There was no evidence of pleural thickening or tuberculosis on the pleura, and no round cell infiltration of the pleura.

The tracheobronchial lymph glands contained fibrous tissue, but no evidence of tumor or tuberculosis.

There was no evidence of carcinoma in any part of this body, either grossly or microscopically.

In July, 1922, another case, which had been under my observation for more than three years, came to necropsy.

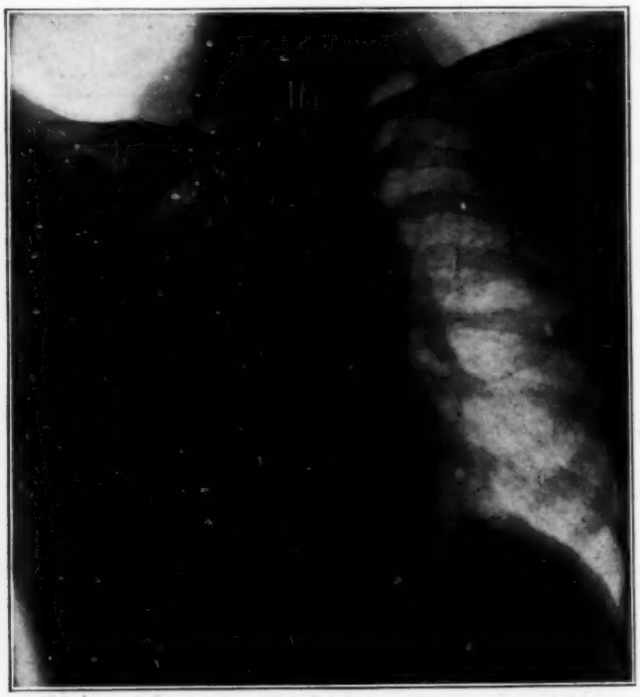


Fig. 3 (Case 1).—Appearance of chest, June 17, 1921.

CASE 2.—Mrs. E. V., aged 47, entered the Presbyterian Hospital to the service of Dr. J. B. Herrick, Feb. 17, 1919, complaining of frequent and severe paroxysmal attacks of unproductive cough, marked weakness, loss of weight, and pain in the right hip and knee. In October, 1916, a hard, painless lump was discovered in the right breast, above which the skin was retracted. A radical removal of this breast was done a week later by Dr. A. J. Ochsner.

On entrance to the hospital, the patient was not acutely ill, though having marked distress from cough. The lower right chest was dull, especially in front, and breath sounds were faint. There was also tenderness on pressure along the fourth, fifth and sixth ribs in the mammary line on the right side.

Roentgenograms of the chest, taken Feb. 18, 1919 (Fig. 4), showed moderately heavy, beaded intensification of lung markings extending well out into the parenchyma of the right lung, heaviest in the lower lobe, and especially near the hilum. A uniform haziness was present over the right lower lobe, and a line of interlobar thickening crossed the right lung field. There was moderately increased density along the bronchial markings of the left lung field. The outline of the right diaphragm was slightly nodulated; the left was normal. The heart shadow and the bones were normal.

The clinical diagnosis was fluid and tumors in the chest, and bone metastases in the ribs.

Rest and sedatives gave little relief. March 1, 1919, the patient was referred for roentgen-ray therapy. The general management and dosage were the same as in Case 1. Treatment covered the same areas of the thorax, and in addition the abdomen, right hip and right knee were irradiated (Fig. 2).

The patient improved under this treatment, was soon able to continue her work as a private secretary, gained 25 pounds (11 kg.) by October 1, and for more than a year was in good health.

Late in December, 1920, the old symptoms returned, though in moderate degree. The patient again entered the hospital, Jan. 12, 1921. Chest examination showed distant breath sounds over the right lower lobe posteriorly, with scattered crackling râles, especially posteriorly over the right middle lobe. There was tenderness on pressure over the ribs. Roentgenograms of the chest, compared with those previously taken, showed very little change in the lung fields. In the ribs there was a mottling in many places on both sides due to areas of rarefaction interspersed with small areas in which the trabeculae were increased in density. A ten-day rest in bed and increased irradiation brought relief, and the patient returned to work for nearly a year.

In September, 1921, the patient came under the clinical care of Dr. Milton Portis. The symptoms had again returned, and although the roentgen-ray treatment was continued as before, the relief was not so satisfactory. A lump found in the left breast was excised, and proved to be carcinomatous. In October, a radical removal of this breast was done by Dr. Lackner of the Michael Reese Hospital.

In April, 1922, the patient suffered from shortness of breath and pain on respiration. I examined the patient and found flatness of the left chest anteriorly to the second interspace and to the fifth rib posteriorly. Breath sounds were distant. The liver was tender, and palpable two and a half finger breadths below the costal border in the mammary line.

Roentgenograms of the chest (Fig. 5) taken, April 29, 1922, showed a little intensification of the shadows previously described on the right side, especially near the hilum. On the left, a very dense uniform shadow was present over the lower lung field, blotting out the shadows of the heart and diaphragm, and curving upward at the lateral costal margin. A similar shadow, though less dense, occupied the rest of the lung upward to the apex. Lung markings could be traced only in a small area in the midportion of the lung field. The ribs and the lower ends of the scapulae had a mottled appearance due to small areas in which the trabeculae were irregularly arranged and increased in density, interspersed with small areas of decreased bone density.

The findings in the left lung field were compatible with a large quantity of fluid in the pleural cavity. The bone findings were questionable for metastatic foci.

In June, 1922, the left pleural cavity was aspirated by Dr. Milton Portis, and 3 pints (1.5 liters) of bloody fluid removed. There was slight relief of symptoms for a week, and then the symptoms returned.

The patient had worked daily since May, 1919, except for the few days in the hospital at various times. In fact, she went to her work up to within three days of her death, although with difficulty, which had been continuously increasing in the last few months.

From the beginning of the roentgen-ray therapy to June, 1922, the patient received a total of 2,300 milliampere minutes over the right, and 2,325 milliampere minutes over the left side of the chest, 355 milliampere minutes over the abdomen, 810 milliampere minutes over the right thigh, and 340 milliampere minutes over the right knee.

May 30, at the request of Dr. Portis, I gave the patient 300 milliampere minutes over the left side of the chest, at 140 kilovolts (sphere gap) at 50 cm. distance, 0.25 mm. copper and 1 mm. aluminum filter.

From June 26 to 30, intensive irradiation for an hour a day, at 200 kilovolts, was given by Dr. E. L. Jenkinson, at St. Luke's Hospital.

July 14, the patient developed a gradually increasing afternoon fever, the temperature rising to 104 F. She died, July 16, 1922.

At necropsy, conducted by Dr. H. A. Oberhelman, the skin of the chest anteriorly and of each axilla was brown, scaly and indurated, and there was marked atrophy of the skin.

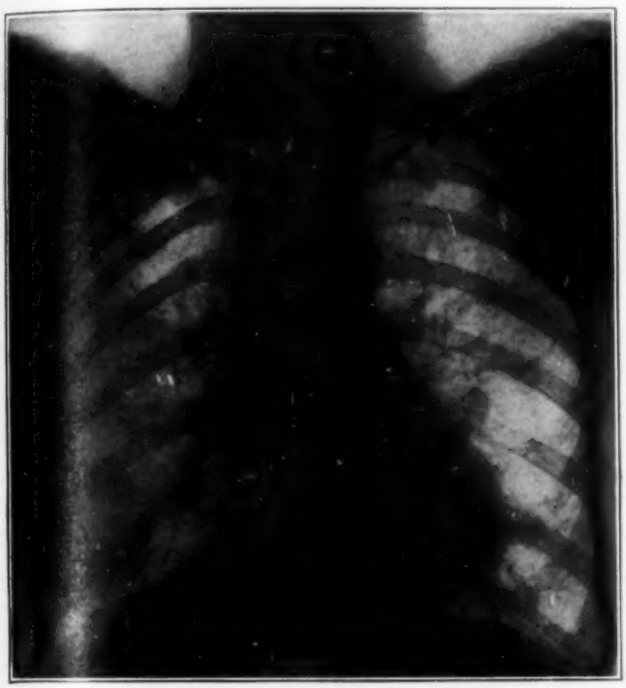


Fig. 4 (Case 2).—Appearance of chest, Feb. 18, 1919.

The intercostal muscles of both sides, when cut at right angles, showed broad streaks of white fibrous tissue. The costal cartilages were soft. The mediastinal tissues were densely adherent to the back of the sternum. The entire right pleural cavity was obliterated by dense fibrous adhesions that held the lung firmly against the chest wall, and the interlobar fissures were obliterated. The right lung weighed 815 gm., and was boggy. The upper two thirds of the left pleural cavity was obliterated by fibrous adhesions. In the lower third were 800 c.c. of turbid yellow-brown fluid, in which were a few stringy blood clots. This fluid was in a pocket between the lung and the diaphragm. The lung was pushed up to the level of the fourth interspace. The parietal pleura of the left side was adherent to the ribs and studded with tumor nodules, as was also the diaphragmatic reflection of the pleura. The left lung weighed 440 gm. The pericardial sac was also studded with tumor nodules, which could be seen from the outside. The sac was thickened and indurated, and contained 50 c.c. of fluid. No cavities or tumors were found in either lung on many surfaces made by cutting. Metastatic tumors were present in the mediastinal lymph glands, and also in the liver and biliary lymph glands, the peritoneum and ovaries.

Microscopic examination showed the tumor nodules to be carcinoma. There was a definite necrosis in the centers of even the very small tumor nodules. The nodules lay in an abundant stroma. A few nuclei lay about the margin of the necrosis, some fragmented, and some intact. There were few mitotic nuclei, and very little round cell infiltration in this zone. The fibrous thickening of the left lung substance was so marked that almost no alveolar spaces were seen. The piece of rib sectioned showed marked bone atrophy, loss of lacunar arrangement, and hyaline degeneration. There was no tumor invasion.

## SUMMARY

These two cases present a great similarity in their clinical pictures, but a striking difference in necropsy findings. In each case the postmortem revealed pathologic findings sufficient to account for the shadows on the roentgenograms of the chest.

In Case 1, clinically a carcinoma of the breast with three surgical interventions, the patient died seven and a half years after the discovery of the first tumor, and four years after the last operation, which was done for metastases in the old scar, microscopically carcinoma. Postoperative roentgen-ray treatment was started immediately after the last operation, without clinical evidence of metastases other than breast nodules and axillary glands so recently removed. Postmortem examination showed a large pleural effusion, without pleural thickening, on the right side of the chest—the site of the tumor and the greatest amount of roentgen-ray treatment, 2,900 milliampere minutes. Carcinoma was absent. There was no inflammatory process of the pleura, as indicated by the absence of round cell infiltration. There were two small tuberculous foci in the apex of the right lung. A tuberculous effusion from so small a focus, without tubercles on the pleura, and in the absence of pleural thickening, is rare. That the roentgen ray lowered the patient's resistance to tuberculosis, and stimulated an effusion from even so small a focus is to be considered, in view of the statement that roentgen-ray treatment given to guinea-pigs hastens diagnostic results following the injection of tuberculous material into the peritoneum.

In Case 2, clinically a carcinoma of the breast, with two surgical interventions, the patient died five and two-thirds years after the discovery of the tumor and first operation, and eight months after the second operation, which was done for a tumor in the opposite breast, microscopically carcinoma. Palliative roentgen-ray treatment was begun two and one-third years after the first operation, for clinical evidence of metastatic carcinoma within the thorax. Prolonged improvement followed. Two later relapses also responded to this treatment, although not so completely as at first. Postmortem examination showed a pleural thickening and a large pleural effusion of the left side of the chest—

Fig. 5 (Case 2).—Appearance of chest, April 29, 1922.

the site of the second tumor and greatest amount of roentgen-ray treatment, 2,625 milliampere minutes, plus the intensive irradiation given by Dr. Jenkinson. The presence of numerous carcinomatous nodules on the pleura may well account for the pleural thickening and effusion, for, as is well known, such nodules frequently cause an effusion, often bloody, and a patchy thickening of the pleura. The presence of central necrosis in even the very small tumor nodules speaks strongly for the destructive action of roentgen rays on carcinoma cells, as is so often stated in current medical literature. The presence of an abundant stroma surrounding the tumor nodules, and the marked fibrous thickening of the pleura, speak for the stimulation of fibrous tissue by roentgen rays, as is also stated in medical literature. The extent of the fibrosis and tumor necrosis probably explains the long and satisfactory palliation. Nevertheless, in this case, all the irradiation given did not prevent the formation of carcinoma in the opposite breast.

Presbyterian Hospital.

## CONGENITAL STRICTURES OF THE ESOPHAGUS *

PORTER P. VINSON, M.D.
ROCHESTER, MINN.

The literature concerning complete congenital strictures of the esophagus has been reviewed very fully by Plass,[1] Griffith and Lavenson,[2] Cautley [3] and Hirsch,[4] and I shall not endeavor to analyze the cases they have compiled. There have been numerous types of esophageal deformity, but the majority of them are represented by Figure 1 *a*, in which the upper portion of the esophagus ends in a blind pouch and the lower portion enters the trachea, or a bronchus forming an esophagotracheal or esophagobronchial fistula. Another type of stricture (Fig. 1*b*) is represented by an upper and a lower culdesac connected by a strand of tissue. A third type is similar to this, with the exception that there is no connection between the two segments.

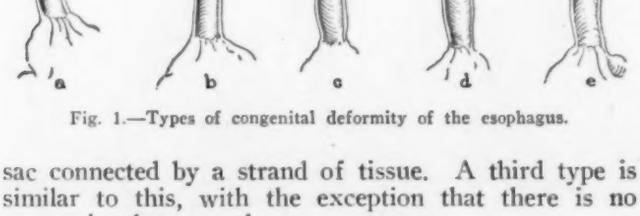



Fig. 1.—Types of congenital deformity of the esophagus.

Again there may be an upper culdesac only, sometimes connected with the stomach by strands of tissue. These strands, however, are often absent. The esophagus may be also partially or completely closed by a diaphragm-like membrane (Fig 1*c*). The organ may be completely absent or may be represented by a solid cord throughout. Partial or complete doubling of the esophagus is sometimes seen. One case has been reported by Fischer [5] in which there was a double esophagotracheal fistula, both the upper and lower segments of the esophagus being in communication with the trachea (Fig. 1 *d*). A simple fistula between the esophagus and trachea resulting from incomplete closure of the esophagotracheal partititon may be the only defect (Fig. 1 *e*). Hirsch presumed from roentgenographic evidence that there was a communication between the upper segment of the esophagus and the trachea in one of his cases, but as no postmortem examination was made, this conclusion is open to question. An overflow into the larynx of the swallowed opaque mixture may have occurred, and the outline of the bronchial tree may have been obtained without the existence of a fistula. This finding has been frequently observed when a stricture of any type is located in the upper portion of the esophagus. In 1921, Hirsch was able to compile 146 cases of complete congenital stricture of the esophagus. The case reported here adds one more to the list.

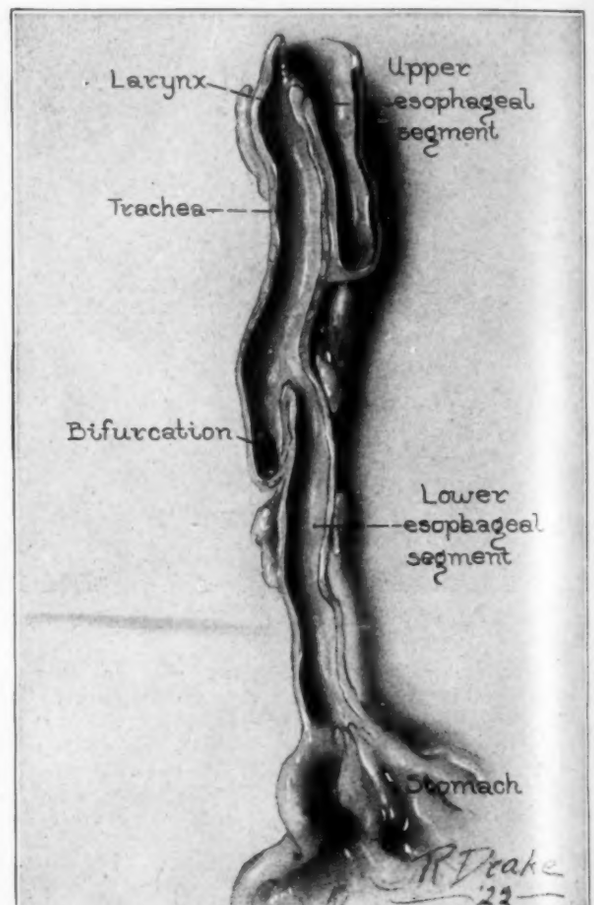



Fig. 2.—Congenital stricture of the esophagus in a child, aged 9 days.

* From the Division of Medicine, Mayo Clinic.

1. Plass, E. D.: Congenital Atresia of the Esophagus with Tracheo-Esophageal Fistula, Associated with Fused Kidney, a Case Report and a Survey of the Literature on Congenital Anomalies of the Esophagus, Johns Hopkins Hosp. Rep. **18**: 259, 1919.
2. Griffith, J. P. C., and Lavenson, R. S.: Congenital Malformation of the Esophagus, Arch. Pediat. **26**: 161, 1909.
3. Cautley, E.: Malformation of the Esophagus, Brit. J. Child. Dis. **14**: 1 (Jan.-March) 1917.
4. Hirsch, I. S.: Congenital Atresia of the Esophagus, J. A. M. A. **76**: 149 (May 28) 1921.
5. Fischer, B.: Ueber die Beziehungen zwischen Missbildungen und Traktionsdivertikeln des Oesophagus, Zentralbl. f. allg. Path. u. path. Anat. **16**: 1, 1905.

CASE 1.—K. K., a baby girl, born March 4, 1923, was apparently normal in every way save that she was unable to retain any of her feedings. The milk, unchanged by digestion, was regurgitated as soon as it was swallowed. Meconium was passed normally. March 9, a fluoroscopic examination of the esophagus was made, and it was observed that the opaque meal was obstructed in the upper portion of the organ. A diagnosis was made of a congenital stricture of the esophagus. The patient was referred to the Clinic, March 12, and an immediate esophagoscopic examination revealed that the upper portion of the esophagus terminated in a blind pouch a short distance below the introitus. The mucous membrane was considerably congested, and the sac contained a small amount of frothy mucus. A gastrostomy was performed. The child died, March 13, and postmortem examination revealed an upper esophageal pouch terminating blindly 3 cm. below the introitus (Fig. 2). The walls of the sac were considerably hypertrophied. The lower esophageal segment was connected with the trachea 1 cm. above the bifurcation. The fistulous opening was 1.5 mm. in diameter. A Meckel's diverticulum was present also. Extensive bronchopneumonia was the immediate cause of death.

Besides this case of complete congenital stricture of the esophagus, four cases of partial congenital stricture have been observed in the Mayo Clinic. A brief abstract of each follows:

CASE 2.—D. W., a boy, aged 4 years, examined, June 21, 1917, had never been able to swallow anything except fluids, and for two months water and milk were often regurgitated. Esophagoscopic examination revealed a congenital stricture 20 cm. from the incisor teeth. There was no evidence of scar formation. The stricture was dilated easily, and the child was allowed to go home. He returned for further treatment, December 6, and a 50 F. sound was passed through the stricture without difficulty. Immediate relief from dysphagia followed the dilations, but I have been unable to trace the patient and learn of his present condition.

CASE 3.—M. M., a girl, aged 5 years, examined in the Clinic, Oct. 17, 1917, had weighed 3 pounds (1.36 kg.) at birth. When a few days old, she began to spit up most of her food, unchanged by digestion. This continued, and at two years of age her weight was 14 pounds (6.4 kg.). With careful feeding by mouth, supplemented by nourishment administered by rectum, her weight had increased to 42 pounds (19 kg.). She had never been able to eat solid food. An esophagoscopic examination revealed a congenital diaphragm-like membrane in the lower portion of the esophagus. The stricture was dilated to 45 F., with complete and permanent relief from dysphagia. From a recent report, it was learned that the child is in perfect health.

CASE 4.—G. V., a boy, aged 20 months, brought to the Clinic, April 12, 1920, had choked on milk frequently from birth, but the condition had been disregarded until a week before, when almost complete esophageal closure had followed the ingestion of a small piece of meat. Roentgenographic examination revealed an obstruction in the upper portion of the esophagus. The stricture was dilated to 45 F., with complete relief from dysphagia.

CASE 5.—A. C., a youth, aged 17, came to the Clinic, April 22, 1920, complaining of dysphagia that had been present from birth. He had never been able to swallow solid food, and milk was the chief source of nourishment. A stricture with a very tiny opening was located 13 inches from the incisor teeth, and was dilated easily to 42 F., with complete and permanent relief from dysphagia. During the year after the divulsion of the stricture, the patient gained 46 pounds (21 kg.) in weight.

SUMMARY

The case of complete congenital stricture of the esophagus here reported brings the number of cases that have been recorded to 147. In the four cases of partial congenital stricture of the esophagus also reported, free deglutition was restored by passing sounds.

# RIEDEL'S LOBE SIMULATING NEPHROPTOSIS *

OTTO J. WILHELMI, B.S., M.D.
Assistant Surgeon, Urological Outpatient Clinic, Washington University Medical School
ST. LOUIS

When scanning the literature for cases of Riedel's lobe of the liver, one finds amazingly few reported. I garnered from those cases that had been reported that the majority showed an error in diagnosis preoperatively; therefore I think it advisable to report these conditions when they do occur, so as to enable the operator to have them in mind when rendering a diagnosis.

The lobe was originally described in 1888, by Riedel,[1] as a linguiform lobulation, or tonguelike prolongation of the anterior margin of the right lobe of the liver. This tonguelike process is attached to the liver proper either by a small bridge of hepatic tissue, or occasionally by merely fibrous tissue. One anatomist, writing in the early eighties, said that it occurred in as high as 30 per cent. of women over 40, but in only 15 per cent. of men. At this time he ascribed the higher percentage in women to the tight lacing then in vogue. His necropsies in children gave negative findings. Today, however, we see very few cases, and in the department of anatomy at Washington University Medical School not a single case has been seen in the last five years.

Fig. 1.—Diagrammatic posterior view demonstrating lobular elongation which occurs in a Riedel's lobe, and difficulty of locating kidney by palpation or simple roentgen-ray examination.

When we enter into the etiologic entities of this anomalous condition, we are confronted with a rather moot question. As early as 1888, Riedel described eight cases. He was an advocate of gallbladder traction, and considered the condition due to the gradual enlargement of the gallbladder, which in turn pushed the liver lobule downward. A little later, Leaf [2] and Thompson [3] reported several cases of linguiform lobulation, but made no mention of gallbladder enlargement or traction at necropsy. However, the condition has been described in children,[4] and its occurrence at this age, when gallbladder disease is quite rare, would strengthen the belief that it is an anatomic anomaly [5]

* Read before the St. Louis Medical Society, Feb. 20, 1923.

1. Riedel, H.: Berl. klin. Wchnschr., July, 1888, p. 577.
2. Leaf, C. H.: J. Anat. & Phys., 1898, p. 17.
3. Thompson, Arthur: J. Anat. & Phys. **19**: 3, 1885.
4. French, Herbert: Index of Differential Diagnosis, p. 366.
5. Ruge, George: Normale und abnormale Entwicklung des Menschen, Morphologisches Jahrbuch, **42**: 397, 1911.

rather than the result of either external or internal traction.

A point worthy of note is the distinction that can be made between the elongated process found in persons guilty of tight lacing or tight jackets, and the lobular enlargements that occur from other factors, such a gallbladder traction. In the former, the right lobe is separated from the liver proper by merely a dense fibrous band, but in cases of Riedel's lobe it seems to be true hepatic tissue. In a manner, Moynihan [6] supports Riedel's theory as to the gallbladder traction on the right lobe. Eighteen months after a cholecystectomy on a woman suffering from an enlarged hepatic pedicle, he noticed that the pedicle had disappeared. He also found that the enlargements were a frequent complication of gallbladder calculi. That this condition could simulate other conditions was brought out by a

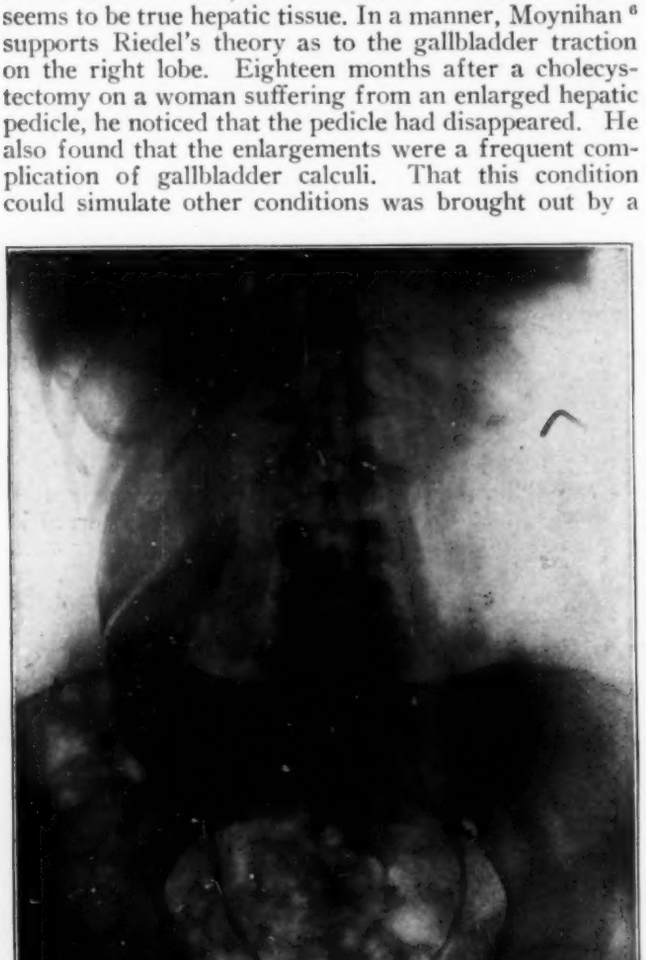


Fig. 2.—Simple roentgenogram, bringing out nicely the right lobular prolongation (Riedel's lobe); the kidney does not appear.

case, at first thought to be a kidney tumor, which later proved to be a lobular enlargement of the liver.

Again in 1920, O'Conor [7] showed in his two cases the difficulty of accurate preoperative diagnosis. The first case was diagnosed as a pyonephrosis, with possibilities of a perinephritic abscess. At operation, he found a normal kidney, but an elongated liver lobe extending to the ramus of the pubis. His second case suggested such variations in diagnosis as hypernephroma, acute obstruction and Addison's disease. After operation, however, this also showed a large Riedel's lobe extending to the superior iliac spine, with a normal kidney.

Diagnosis appears off-hand to be quite simple with our available cystoscopic and roentgen-ray apparatus, but we are often misled. A palpable notched mass below the right costal border, freely movable, will undoubtedly bring the thought of the kidney to our minds. Later, in order to check up on the tentative diagnosis, we resort to pyelography, and in all probability place the patient in the sitting posture previous to the roentgen-ray examination. As a result, the pyelogram demonstrates a kidney pelvis a little below the crest of the ilium, and shows an outline of a ptosed kidney. The thin, tonguelike process of the liver as a rule does not show up in this picture, and we are left ignorant of the actual status of affairs until the operation. In those cases in which the liver is demonstrated on roentgenograms and pyelography has been omitted, we are most likely to err in calling the unusual shadow kidney, especially after palpating a large mass in the right flank; the same error can easily be made when the picture is partially obscured by gas.

It is quite true that renal tissue [8] on palpation usually retains the kidney shape and is rounded, but often the abnormal liver lobe will simulate this so closely that the differentiation is impossible if one resorts to this method of examination alone. However, one important factor in differentiation is that renal tissue does not descend as freely on inspiration as do liver enlargements, although this observation is of little value in a floating ptosed kidney which is freely movable in the upper right quadrant.

One can usually grasp an enlarged kidney bimanually and push it down into the loin; this is an impossible feat with liver tumors. Also, renal tumors in their process of enlargement generally project downward and forward, and seldom cause the posterior prominence that liver tumors do.

The urinary findings may aid one in diagnosis. Kidney tumors, on the one hand, show such changes as frequency of urination, hematuria and deficient renal function, while a nephroptosis is apt not only to show a variance in function but also a pelvic retention with an accompanying infection. Lobular hepatic enlargements, on the other hand, seldom show urinary changes, and these changes are accidental when they do occur.

Reconsideration of the foregoing points will show that pyelography, when available, will prove the most reliable aid in accurate diagnosis.

The case of Riedel's lobe of the liver here reported demonstrates the possibility of error in diagnosis before operation, even though the roentgen ray, cystoscopy and pyelography had been resorted to previously.

## REPORT OF CASE

*History.*—Miss K., aged 63, white, consulted me, March 9, 1922, for pain in the right epigastrium, a mass in the right upper quadrant, and frequency of urination. The family history was grossly negative. She had had occasional attacks of hay-fever and headaches. She had always enjoyed fairly good health. The pain in the right side had troubled her at intervals for the last thirty years. She imagined that the abdomen was increasing in size, and of late she had been suffering from frequency of urination and incontinence. She had felt bloated after eating.

*Examination.*—On account of the gastric symptoms and the feeling of bloatedness, I referred her to an internist, who reported that the patient was of rather meager build, weighing 113 pounds (51 kg.), and had a rather relaxed abdomen. Examination of the head, heart, and lungs was negative. A large movable mass was felt on the right side which appeared to be the kidney. The epigastrium was very tender, and the patient complained of pain in this region. A test meal showed but 10 c.c. of thin contents one hour after ingestion. The stomach, on inflation, ran down to within 1 inch of the pubis.

6. Moynihan, Berkeley: Gallstones and Their Surgical Treatment, Philadelphia, W. B. Saunders Company, p. 147.
7. O'Conor, V. J.: J. Urol. 4: 97 (Feb.) 1920.
8. Cabot, R. C.: Differential Diagnosis 1.

Free hydrochloric acid was present. No lactic acid was present. Microscopic examination was negative. The stool presented a trace of occult blood. Examination of the urine was negative for albumin but revealed a trace of carbohydrate.

The urine was acid, and its specific gravity was 1.004. Microscopic examination was negative.

Roentgen-ray examination showed no six hour residue. The stomach filled well; it lay to the left and below the navel. The resistance that one felt in the epigastrium was distinctly above the stomach, and probably was the lower edge of the liver or pancreas.

On completion of the internist's examination, the patient was referred back to me. On palpation there could be felt a very large, smooth, movable, mass extending from the costal border to within a few inches of the iliac crest. The lower border of this mass could be grasped bimanually on inspiration.

On cystoscopic examination, the cystoscope encountered no obstruction in the urethra. The bladder capacity was normal. The bladder dome was thrown into folds, and distorted, probably from extra-uterine pressure. A catheter passed into the left kidney pelvis, but was blocked 6 cm. from the right orifice.

Fig. 3.—Short distance to which catheter could be introduced in right ureter owing to ptosed kidney; light area at distal end of catheter shows indistinct kidney pelvis after pyelogram had been made.

Microscopic examination detected pus but no bacteria from the right side, and on the left side was negative.

The functional test was performed, 1 c.c. of phenolsulphonethalein being given intravenously. The time of appearance was: right, one and one-half minutes; left, one and one-half minutes; first fifteen minutes, right, 18 per cent.; left, 12.5 per cent.

A pyelogram, 18 c.c. of thorium being injected into the pelvis of the right kidney before any sensation occurred in the right side, showed a marked ptosis of the right kidney with a dilated pelvis and an accompanying hydronephrosis. The picture was partially obscured by the crest of the ilium and by gas. But on closer scrutiny, a faint, tonguelike shadow was seen extending from the right costal border downward into the right flank.

Up to the present time an internist, a surgeon and I had seen this woman and diagnosed the condition as a ptosed kidney; owing to the rarity of Riedel's cases, no suggestions had been even offered as to the possibilities of such a lobular prolongation. However, all had agreed as to the presence of a palpable liver. The point which I wish to bring out is that it was practically impossible on palpation to differentiate renal from hepatic enlargement. Since deeper roentgen-ray penetration is used for the kidney than for the liver, the roentgenologist likewise would not aid us, for the two organs would not appear on the same plate.

*Operation and Result.*—The patient was placed in the position for a kidney operation, with the left knee flexed and the corresponding arm and leg extended. A regular kidney incision was made, and after the muscle layers had been cut through, a large, fluctuating mass of adipose tissue was found surrounding the tumor mass and considered to be perirenal fat. On splitting this with the fingers, we found the mass to be a huge tongue of the liver which extended from the diaphragm to the crest of the ilium. The rent in the peritoneum was sewed up and the kidney was located extraperitoneally below the iliac crest posterior to the tongue of the liver. The kidney was normal in size, with an enlarged pelvis. A regular nephropexy was completed. The patient made an uneventful recovery, and was discharged from the hospital the third week.

I might add that the urinary symptoms have cleared up since the operation; that is, incontinence, frequency of urination, pain in the right flank, and pus in the urine. However, she still complains of gastric symptoms occasionally, and the tumor in the abdomen, which one would expect with the liver enlargement.

It is quite probable that all of us had been continually palpating this linguiform process of the liver and considering it kidney. It is also probable that, on change of position, we occasionally palpated the kidney, although it was rather deep in the iliac fossa to permit much palpation.

COMMENT

I would suggest that it is advisable that the urologist always keep Riedel's enlargement in mind when palpating tumors in the right flank, and always perform pyelography before any operative procedure, even though sufficient evidence apparently has been gathered, by palpation and functional tests, to warrant such procedure.

University Club Building.

---

# PYELOTOMY, URETEROLYSIS AND EXTIRPATION OF THE KIDNEY

## A SPECIAL TECHNIC

GUSTAV KOLISCHER, M.D.
Attending Genito-Urinary Surgeon, Michael Reese and Mount Sinai Hospitals
AND
HARRY KATZ, M.D.
Associate and Adjunct
CHICAGO

In exposing deeply seated organs, two principles are to be observed: complete exposure of the organ concerned and the least possible destruction of the covering structures compatible with such free exposure. If, in renal surgery, a flank incision is chosen, the proper position of the patient is one of the decisive factors in providing for good accessibility of the kidney.

The available space is framed by two bony structures —above, the edge of the lower costal arch, and below, the crest of the iliac bone. The farther apart these enclosures are forced, the larger the usable interstice will be. The proper widening of the bony frame will best be accomplished by placing the patient in a lateral position and by putting him on an incline in such a way as to cause bulging of the flank concerned.

Unnecessary destruction may be avoided by employing a muscle splitting procedure in lieu of the usual transverse severing of the covering muscle layers.

The skin incision is placed halfway between the last rib and the crest of the ilium, and deepened until the

fascia also is severed. Now the skin and the fascia together are stripped off the muscles until the latter are denuded upward and downward to the extent of several inches. This is most expeditiously accomplished by employing a sharp, straight edged bone chisel (Fig. 1).

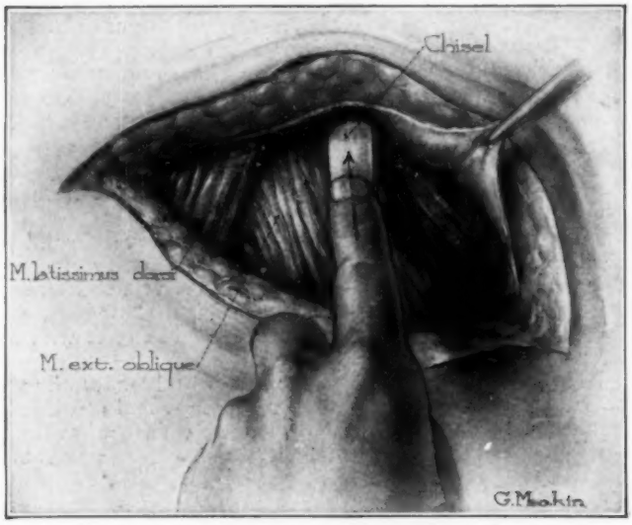



Fig. 1.—The exposed abdominal muscles are denuded by scraping motions executed by a sharp chisel.

This denuding of the muscles is an important step, because the resistance to opening the flank gap widely is offered mainly by the skin and the fascial structures. After the belly of the external oblique muscle is exposed by blunt dissection, its fibers are spread apart in its center; there now appears in the bottom of this fissure the belly of the internal oblique muscle.

This is manipulated in a similar way, leading to the appearance of the transverse muscle; the splitting of this muscle makes the renal fascia visible. The fascia is incised in its center, and the incision is spread by introducing the first two fingers of each hand (Fig. 2).

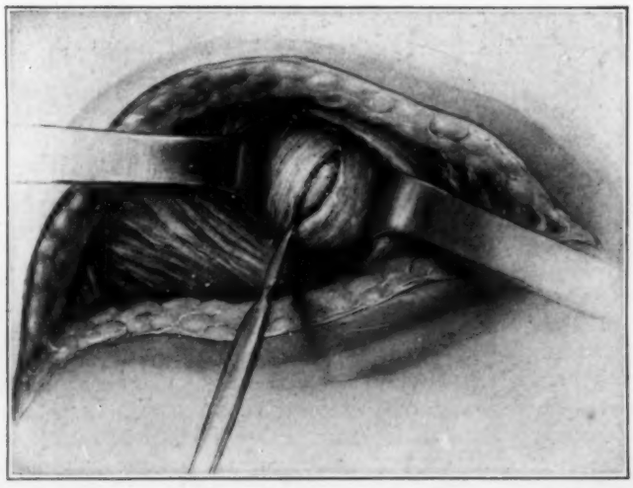


Fig. 2.—After the covering muscles have been spread, the fascia renalis is incised.

Large retractors are now inserted, and by steady traction on them the gap is widened sufficiently to admit a palpating hand. Occasionally, additional resistance is furnished by the inner lamella of the fascia pertaining to the latissimus dorsi. Nicking the anterior edge of this fascia as a rule helps to widen the gap.

A criterion of the success of the muscle splitting is the determination as to whether or not the opening permits the introduction of one hand. If it does, the dislocation of any but an extremely oversized kidney will not present difficulties. It will, of course, always lie within the choice of the operator to cut the muscles.

The advantages of the exposure by this gridiron incision are obvious. There is no hemorrhage to speak of; no muscle stumps have to be reunited, and the

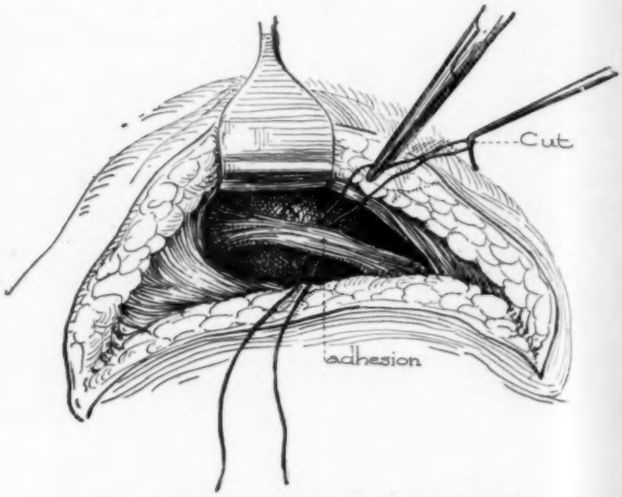



Fig. 3.—Ligating and severing of firm adhesions.

condition of the wound after the necessary renal surgery is finished is simple.

In the technic of extracting the kidney, it is always best to make sure of the topography by carefully pal-

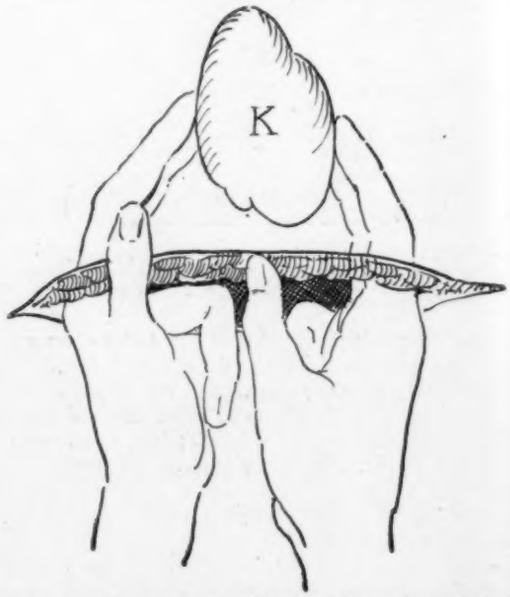



Fig. 4.—Lugging out of the kidney by bimanual manipulation.

pating for the outline of the kidney, the liver and the spleen, respectively. Then the adipose layer around the kidney is bluntly entered and wiped off the kidney by sponge dissection, always working from behind toward the front.

It is of great advantage to begin at the lower pole and to carry the dissection gradually upward. If one encounters rather firm adhesions, it is best to sever these between two ligatures, so as to avoid either tearing into the renal parenchyma or opening up large blood

vessels, which are frequently found within such strands (Fig. 3).

Occasional hemorrhage emanating from the perirenal fat is best controlled and eventually stopped by pressing gauze pads against the bleeding area and keeping them in place with the flanges of the retractors used in clearing the field of operation.

Fig. 5.—Underpadding of the kidney with gauze pads.

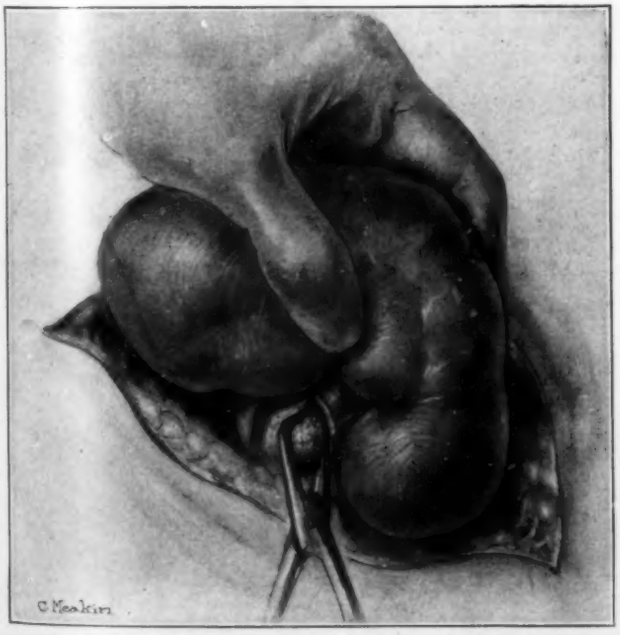


Fig. 6.—Extraction of stone from the incised renal pelvis.

When the kidney is once freed down to its pedicle, circular palpation is employed in order to locate the artery or arteries and at the same time to glean information as to the condition of the ureter and the pliability of the balance of the renal pedicle.

In infectious processes, particularly in tuberculosis of the kidney, the ureter is often infiltrated and shortened. Ligating and severing it as the first step of renal extirpation produces satisfactory results as to the mobility of the kidney.

In trying to dislocate the kidney into the upper region of the incision, it is safer to lift the kidney gradually out of its niche by placing the first two fingers of each hand on its sides and thus bring it upward by burrowing motions, than to grasp the kidney with one hand and try to pull it upward in this way (Fig. 4).

Fig. 7.—Suturing of pelvic incision.

If it is necessary to free the kidney out of a deep recess underneath the costal arch, it is helpful to stabilize the result of each step of development by padding the cavity underneath the kidney successively with large gauze pads, in order to prevent the annoying slipping back of the organ (Fig. 5). This is particularly indicated if the adipose layer is developed to a high degree.

For removal of renal concretions, pelvotomy is now generally accepted as the method of choice. After the posterior aspect of the renal pelvis has been freed, this surface is made to bulge by digital counterpressure, and the pelvic wall is incised with a fine pointed knife. This opening is widened, if necessary, by spreading the tips of artery forceps within its edges, and the stone is extracted with slender stone forceps or a spoon (Fig. 6).

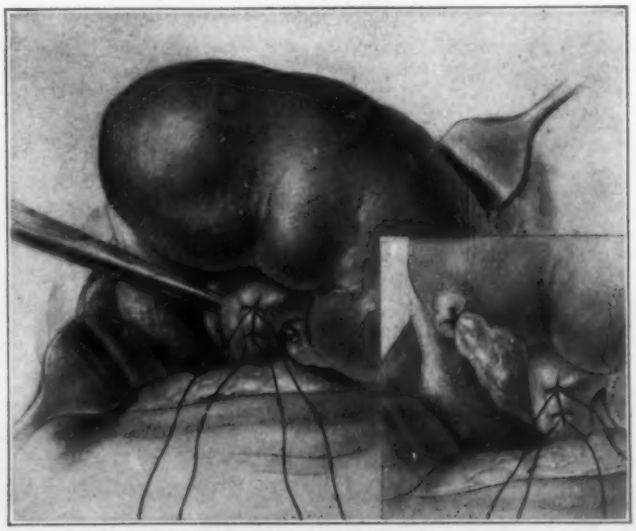


Fig. 8.—Interposition of perirenal fat after ureterolysis.

Irrigation with sterile water follows in order to flush out any débris or gravel. The pelvic incision is closed with two fine catgut sutures, care being taken not to bring the sutures within the pelvic cavity. The ends

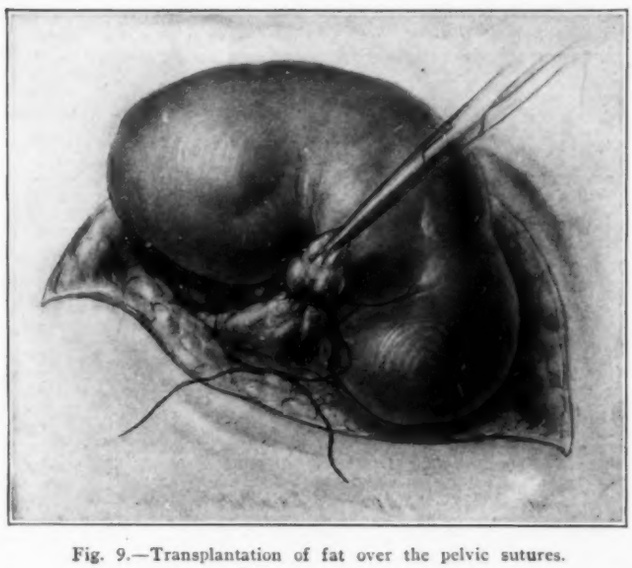


Fig. 9.—Transplantation of fat over the pelvic sutures.

of these sutures, after being tied, are left long for further use (Fig. 7).

In case it is necessary to resort to ureterolysis on account of pathologic attachment of the uppermost end

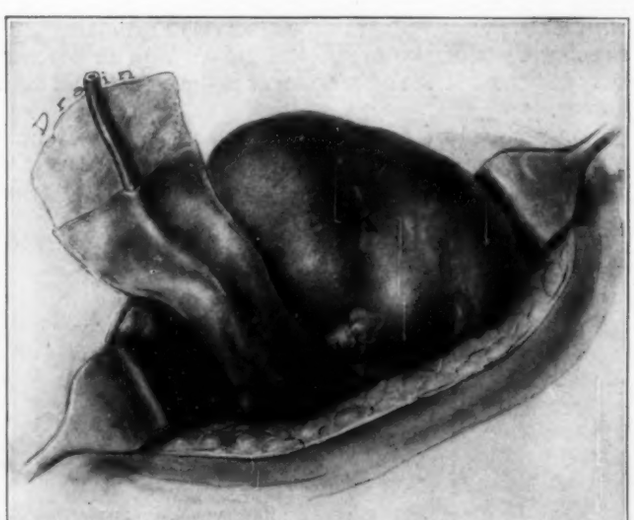


Fig. 10.—Insertion of Bullock drain previous to the replacing of the kidney.

of the ureter, a piece of perirenal fat may be drawn between ureter and kidney, and the free end of this tranpslant fixed with a catgut suture to the fibrous capsule of a renal pole (Fig. 8). Then another piece of perirenal fat is drawn in between the long ends of the pelvic sutures, and fastened over the incision by tying the suture ends over it (Fig. 9).

While it is true that in many instances the pelvis will heal without suturing and fat transplantation, the procedure as described furnishes desirable safeguards.

A Bullock drain is passed down, facing the surface of renal operation, and after this insertion the kidney is replaced. This arrangement prevents any stripping off of the transplant, which may occur if the kidney is replaced first and the drain inserted afterward (Fig. 10).

If the removal of a kidney is decided on, special technical appliances and their proper employment will facilitate matters, and at the same time guarantee definite and reliable hemostasis.

The use of a doubly fenestrated aneurysm needle makes it much easier to swing the ligatures around the isolated parts of the vascular pedicle. A blunt hook is used for pulling the threads out of the eyelets. The

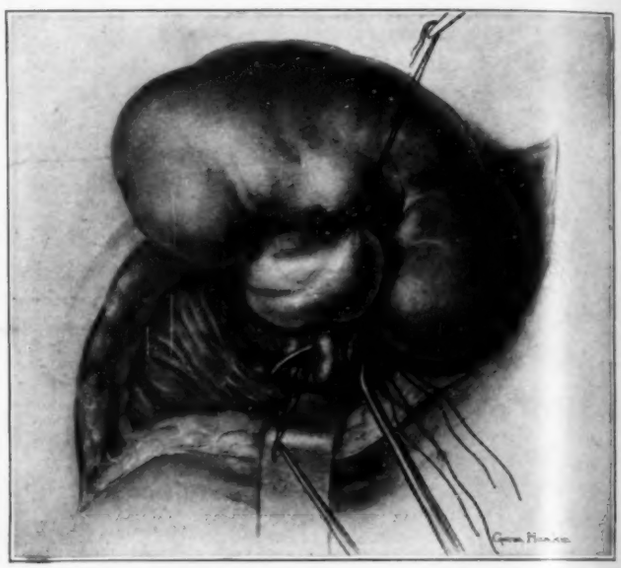


Fig. 11.—Placing of ligatures with the bifenestrated aneurysm needle.

employment of this instrument not only facilitates this procedure but also avoids damaging of the ligatures (Fig. 11).

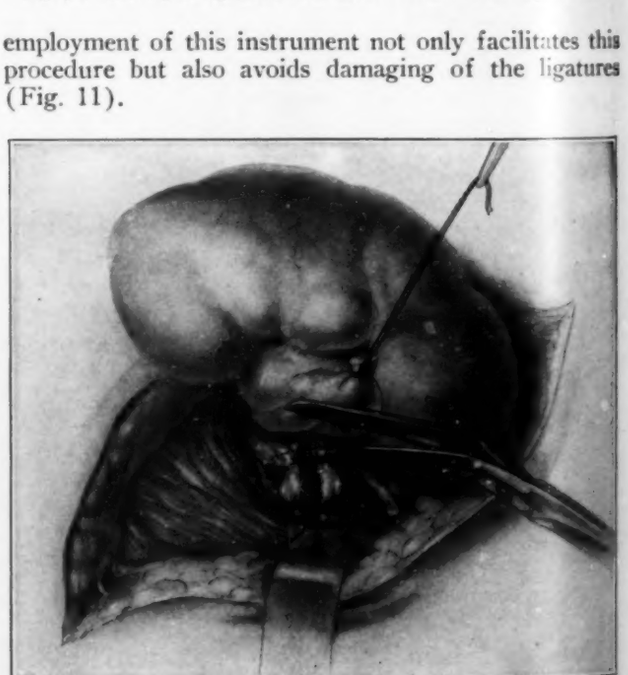


Fig. 12.—Both sets of ligatures around the blood vessels tied; ureteral stump drawn upward.

In order to prevent any slipping of the tied loops, a double set of ligatures is applied. In this way, a bulge between the two rows of ligatures is produced, furnishing absolute safety as to hemostasis (Fig. 12).

108 North State Street.

# THE DANGER OF LIQUID PETROLATUM IN PARENTERAL INJECTIONS *

FRED. D. WEIDMAN, M.D.
PHILADELPHIA

I wish first to touch on the injection of paraffin, a substance which, while not an oil, has a similar pathologic significance, besides being closely related chemically to liquid petrolatum. Furthermore, the more recent findings in connection with liquid petrolatum injections throw a side-light on the paraffin ones which justify this digression.

## PARAFFIN INJECTIONS

Every medical man is by this time aware of the untoward effects which sometimes follow the injection of paraffin for cosmetic or other purposes; so much so, in fact, that the term paraffinoma now has a familiar ring, and that the use of this substance in plastic surgery has been almost abandoned.

Davis [1] brings out that not every person thus treated develops a paraffinoma—that there must be a predisposition on the part of the patient; and, from this the final verdict for or against paraffin must depend on the frequency of the development of paraffinomas in relation to the benefit that will accrue from its use. His conclusion on this point is that "the affliction is common enough to clothe the procedure with a distinct risk," and Oppenheimer [2] likewise expresses an unfavorable opinion.

"Tumor" resulting from injection of liquid petrolatum three months previously.

Mort,[3] on the other hand, believes that he has avoided the untoward effects by carefully selecting his paraffin; i. e., using one with a high melting point. In effect, Mort has been eliminating the lower fractions from his paraffins, the ones more closely related to the liquid petrolatum which has been found both clinically and experimentally to be responsible for swellings practically identical with paraffinomas; and, in all fairness, the whole general subject of paraffin cosmetic work should be reopened, or at least we should hold our minds open in the matter until hard paraffins have been duly incriminated in their turn. I feel that ultimately the same fate will befall the hard paraffins as did the softer ones; for the tissue reaction against paraffin is that of a nonspecific foreign body, and I believe that some day it will be shown that certain individuals have a tendency to react unduly against formed foreign bodies in general, by the familiar tissue proliferation in which giant-cells are so conspicuous, in a way that other individuals do not. So that, provided the individual's tissues are thus disposed, the foreign body reaction will take place regardless of whether the foreign body is hard paraffin, soft paraffin, liquid petrolatum, celloidin or cellulose. However, this is a personal opinion and cannot stand in the way of experimental tests of the hard paraffin injections.

Let us pass now to the subject of liquid petrolatum injections, in which, in practice, the liquid petrolatum has acted, for the most part, as the vehicle for camphor and the insoluble mercurial salts.

## CAMPHORATED OIL INJECTIONS

Of the "tumors" which we can charge against liquid petrolatum, the first to be described were the sequels of camphorated oil injections, liquid petrolatum having been used as the excipient instead of the official olive oil. They were accordingly denominated "camphorated oil tumors." By now, a dozen or more such misfortunes have been recorded, from France and Germany as well as the United States.[4] These "tumors," be it said at once, are not neoplasms. In substance, they are foreign body granulomas having the peculiarity of progressiveness by virtue of the labile character of the exciting agent, an unabsorbable oil, which they contain, and they even extend in more or less linear fashion along lymphatic channels quite to the regional lymph nodes. While they are not a matter of life and death, they are discommoding and disfiguring. Surgery is the only treatment, and this is often unsuccessful on account of recurrences. Of course, such recurrences may be conceivably prevented by a sufficiently radical operation, but the difficulties here may be appreciated in those cases in which the whole deltoid region is affected and extension has taken place to the axillary lymph nodes. All of this is most disconcerting in connection with a preventable disease, and one that has been produced at the hands of the profession.

Taken on the whole, the tumors that result from camphorated oil injections do not bulk large in general practice, because it is only exceptionally that liquid petrolatum is substituted as the vehicle for camphor. In one hospital, however, I found that the camphorated oil used for rubbing purposes was, as a routine, made up in liquid petrolatum, while that for injections was the official article made up in olive oil. The possibility of an interchange between the two in the wards must occur to any one. Probably the most important aspect of the camphorated oil tumors today is their identification from tuberculomas, gummas and sarcomas, but the matter of differential diagnosis does not fall within the scope of this paper.

## INSOLUBLE MERCURIAL INJECTIONS

I have written this paper because this class of injections is so commonly practiced today, because liquid petrolatum continues to be used as the base for such injections, and because injections of all classes are destined to be used more and more in the future. That is, the liquid petrolatum tumor situation is calculated to become worse rather than better. There is a real issue before us. Already, in spite of the warnings that have been sounded in connection with camphorated oil injections, there are indications in the literature that tumors have developed at the site of mercurial injections.[5] And it is in the nature of medical things that tumors resulting under these circumstances should

---

* Read before the Philadelphia County Medical Society, April 11, 1923.

* From the Laboratory of Dermatological Research, Department of Cutaneous Medicine, University of Pennsylvania.

1. Davis, B. F.: Paraffinoma and Wax Cancer, J. A. M. A. **75**: 1709 (Dec. 18) 1920.
2. Oppenheimer, S.: Laryngoscope **30**: 595 (Sept.) 1920.
3. Mort, S.: Lancet **2**: 105 (July 19) 1919.
4. Bibliography in Weidman, F. D., and Jefferies, M. S.: Experimental Production of Paraffin Oil Tumors in Monkeys, Arch. Dermat. & Syph. **7**: 209 (Feb.) 1923.
5. DuBois: Abst. Schweiz. med. Wchnschr. **51**: 136, 1921. Mook, W. H., and Wander, W. G.: Camphorated Oil Tumors, J. A. M. A. **73**: 1340 (Nov. 1) 1919. Cole, H. N.; Littman, Sidney, and Sollmann, Torald: Study of Mercury Injections by Means of Roentgen Ray, J. A. M. A. **75**: 1559 (Dec. 4) 1920.

not be widely advertised; indeed, there are good reasons why they should not be reported in the literature in addition to the reasons for unreported medical cases in general. Thus, since the injections are made intramuscularly, the tumors will be deep-seated and excite less remark than the camphorated ones. The tumor, unless it becomes very large, may be ascribed to the effects of the mercury. Again, it is the lesser of the patient's evils, and will be acquiesced in by him as part of his vice and kept secret, perhaps regarded both by him and by his physician as of syphilitic causation. We say nothing of the likelihood of medicolegal considerations. One of the most recent reports was in conjunction with Halberstädter's [6] case of liquid petrolatum tumors of the face which were induced by cosmetic injections, and it came out in the discussion which followed that mercury and paraffin injections had induced the same kind of lesion. I have had one case, that of a nurse, who had received mercurial injections ten years previously and had nodular infiltrations the size of an orange in her arms and thighs.

After the camphorated oil and facial surgery experiences, the profession should naturally look to some other base; and, as a matter of fact, the proprietary drug houses have sensed the situation, and have made mercuric salicylate available in ampules of cacao butter, goose-grease, lard oil, olive oil and oil of sweet almonds in addition to liquid petrolatum—not to mention the secret compounds, which are naturally always open to suspicion. A canvass of several of the largest drug stores in Philadelphia shows that the liquid petrolatum preparation is still very widely used: "is most popular," as the leading druggist puts it. And whereas Sutton [7] deprecates its use, another dermatologist continues to recommend it in his textbook without warning of any untoward effects.

In the end, a final opinion as to the propriety of employing liquid petrolatum and mercury preparations will depend on several considerations: 1. Proving that they continue to be frequently used today. I take it that enough has been said to cover this point. 2. Showing that, thus used, they induce tumors frequently enough to create an issue. This has also largely been covered, but I wish to add that three of the five monkeys (60 per cent.) injected with liquid petrolatum by Dr. Jefferies and myself [8] developed tumors. 3. The end justifying the means. Liquid petrolatum injections would have to stand in spite of the occasional tumor production if there were no other recourse than the liquid petrolatum base, for the benefit accruing from such injections would far outweigh the occasional tumors. It is paramount to cure syphilis. But the real point is that there is an alternative. In our experiments on monkeys, olive oil excited no such lesions, and olive oil has been injected in conjunction with camphor countless times without adverse reports that I can find; probably the numerous other oils that are susceptible of saponification and absorption would be just as bland in the small dosage necessary for mercurial injections.

Under these circumstances, I feel strongly that we are not doing our utmost for our patients when we continue to use the liquid petrolatum base. We might successfully gamble with eight, nine or ten patients, but what of the eleventh? The foregoing considerations apply with equal force to injections of other soluble substances, such as the bismuth salts which have been on trial recently.

6. Halberstädter: Abst. Arch. Dermat. & Syph. **7**: 565 (April) 1923.
7. Sutton, R. L.: Diseases of the Skin, Ed. 4, St. Louis, C. V. Mosby Company, 1921, p. 812.
8. Details of experimental results in Weidman and Jefferies (Footnote 4).

### INJECTIONS INTO SEROUS CAVITIES

I find one report of injection of liquid petrolatum into the "scrotum" (which may or may not have referred to the tunica vaginalis testis). This was done to induce a lesion which would prevent conscription into the Italian army.[9] The usual liquid petrolatum tumor resulted, and final diagnosis was made from the histologic appearance.

Injected into the peritoneal cavity, oils have variable effects. It appears that whereas small quantities of various oils may be absorbed from the peritoneal cavity, larger ones connot. Thus, Schwartze [10] found that pressed peanut oil remained in the peritoneal cavity of all the commoner laboratory animals for twenty-four weeks, and that oil cysts developed within a month. If this is true for a vegetable oil, certainly the notorious liquid petrolatum would behave at least similarly. Other workers [11] have noted, in passing, the mildly irritative qualities of various oils on the peritoneal lining of animals.

In an attempt to avoid the repeated injections of air in artificial pneumothorax, Archibald [12] injected liquid petrolatum into the pleural cavities of various animals. He found that it did not produce the desired result, because it was not quite inert—only 50 per cent. of it could subsequently be withdrawn on account of inflammatory encapsulations and pocketings. Secondary infection was controlled and eliminated as a possible factor in this. Rost [13] found that liquid petrolatum, when injected into the peritoneal cavity of guinea-pigs, produced "poisonous" effects.

### CHAULMOOGRA OIL INJECTIONS

Lukens [14] has been using this drug highly diluted with liquid petrolatum, by intratracheal and intralaryngeal insufflation. His methods and reports were not calculated to throw any light on the liquid petrolatum reactions.

In addition to chaulmoogra oil, Corper and Freed [15] have insufflated liquid petrolatum and olive oil into the lungs of rabbits. All three oils induced lesions which persisted for two months. Olive oil and liquid petrolatum behaved alike, inducing a mild type of proliferative bronchopneumonia. This persisted for months.

From widely separated spheres of medical endeavor, thus, come the reported experiences with liquid petrolatum—from the internist, the dermatologist, the syphilologist, the surgeon, the laryngologist and the experimenter in tuberculosis. Furthermore, the sites of injection have been various; but in all cases the results have presented the same theme; i. e., a low-grade inflammatory hyperplasia which may rise to the level of tumors. After all this, we must feel convinced that the liquid petrolatum which we have considered so inert and bland when applied to the skin or administered by mouth is by no means free from untoward effects when

9. Bivona, S.: Policlinico (sez. prat.) **28**: 854 (June 20) 1921.
10. Schwartze, E. W.: J. Pharmacol. & Exper. Therap. **17**: 115 (March) 1921.
11. Petersen, W. F., and Levinson, S. A.: Resistance to Experimental Peritoneal Tuberculosis Following Oil Injections, Am. Rev. Tuberc. **6**: 1035 (Jan.) 1923.
12. Archibald, E.: Compression of Lung by Paraffin Oil in Pleural Cavity, Am. Rev. Tuberc. **6**: 898 (Dec.) 1922.
13. Rost, E.: Med. Klin. **17**: 35-36 (Jan. 9) 1921.
14. Lukens, R. M.: Chaulmoogra Oil in the Treatment of Tuberculous Laryngitis, J. A. M. A. **78**: 274 (Jan. 28) 1922.
15. Corper, H. J., and Freed, H.: Intratracheal Injection of Oils for Diagnostic and Therapeutic Purposes, J. A. M. A. **79**: 1739 (Nov. 18) 1922.

injected into tissues, but that, on the contrary, it is capable of producing important and permanent disfigurement which may necessitate surgical interference.

I recommend, therefore, that since other oily bases are readily available, all physicians should turn from the old track and decline to use liquid petrolatum any further for medicinal parenteral injections.

---

## INTRAPERITONEAL TRANSFUSION WITH CITRATED BLOOD*

J. MARTIN SANSBY, M.D.
AND
DAVID M. SIPERSTEIN, M.D.
MINNEAPOLIS

The difficulties encountered in the transfusion of blood in infancy and early childhood have prompted numerous investigators to attempt other simpler procedures. Consequently, the use of blood in infants and children has been confined until recently to (1) subcutaneous or intramuscular injection of blood; (2) the introduction of blood into one of the larger peripheral veins, and (3) transfusion into the superior longitudinal sinus.

The subcutaneous or intramuscular injection of blood, which is now used chiefly in the treatment of hemorrhagic disease of the new-born, was at one time considered effective in conditions in which a transfusion was indicated. That this method is not in a strict sense a blood transfusion is substantiated by Taylor,[1] who found that only a small number of the cells so injected ever reach the circulation.

Transfusion by the use of one of the larger peripheral veins has been attended in many cases with much difficulty in the hands of one not adept in blood vessel surgery. Not infrequently, after the surgeon has succeeded in exposing a vein, he finds that it is too small for practical use. The shock incident to this procedure and the local loss of blood in an already weak and puny infant may be of vital importance. We have not infrequently encountered cases in which, after the median basilic vein was exposed, little or no blood could be given on account of its small caliber.

Transfusion through the superior longitudinal sinus, which was first advocated by Tobler[2] in 1915 and popularized by Helmholz[3] the same year, has proved to be of great value in infants in whom this route is available. However, many investigators have from time to time pointed out the dangers inherent in puncturing the superior longitudinal sinus.

Under these circumstances it seemed desirable, if possible, to use a method that would be practically free from mechanical difficulties and dangers.

In a previous paper[4] we attempted to show experimentally that freshly citrated blood, when injected immediately into the abdominal cavity, is absorbed in a comparatively short time, without the formation of clots or adhesions. We found that the injected red blood cells entered the circulation without apparently undergoing any change in size, shape or structure. We concluded that this procedure acted as a true transfusion and suggested it as a therapeutic method of possible merit.

Subsequently one of us,[5] in a clinical study, substantiated further the efficacy of the intraperitoneal avenue of approach. In some of his cases he was able, apparently, to differentiate the erythrocytes of the donor in the blood of the recipient. He was unable to notice any toxicity due to the injected blood. He concluded that the intra-abdominal route could be utilized in cases in which transfusion is indicated and when other means are unavailable and impracticable.

It is our purpose now to present several other cases in which the intraperitoneal route for blood transfusion was utilized.

### MATERIALS AND METHODS

The clinical diagnoses in the cases here presented are (1) malnutrition and congenital syphilis; (2) prematurity and third degree cleft palate; (3) erysipelas, and (4) fibroid uterus and secondary anemia. The hemoglobin estimations were made with the Fleischl-Miescher hemoglobinometer.

The patients were not given any breakfast on the morning of the transfusion. Both recipient and donor were grouped, and in some cases cross grouping was resorted to. Ten cubic centimeters of a freshly prepared 2 per cent. sodium citrate solution was used to every hundred cubic centimeters of the donor's blood. The donor's blood was then strained through sterile gauze, and, all aseptic precautions being observed, was immediately injected into the peritoneal cavity of the recipient with a glass syringe equipped with a blunt-pointed needle. The site of the injection is preferably lateral to the midline, one-half inch below the umbilicus. Two points which deserve emphasis in this procedure are: 1. The citrated blood must be fresh and it must be kept at body temperature. 2. The blood should be injected immediately. Details of the amounts used and results obtained are given in the protocols and in the charts.

### REPORT OF CASES

CASE 1.—*Malnutrition; congenital syphilis. History.*—An infant, aged 8 weeks, admitted to the service of Dr. F. C. Rodda, at the University Hospital, Jan. 23, 1923, because of loss of weight, had been born at full term, with normal delivery, and weighed 4,000 gm. at birth. It had been breast fed from birth to two weeks before admission. The parents were syphilitic, and were receiving antisyphilitic treatment. One brother, aged 1½ years, was living and apparently well.

*Examination.*—The child was extremely emaciated and very dehydrated, pale and with marked loss of subcutaneous fat and turgor. It weighed 2,880 gm.; the temperature was 97, and the pulse, 88. The eyes, ears, nose and throat were normal, and there was no adenopathy. The heart and lungs were normal. The liver and spleen were not enlarged; both the upper and lower extremities were normal, as were also the genitalia.

Blood examination revealed: hemoglobin, 87 per cent.; erythrocytes, 5,720,000; leukocytes, 13,000; differential count: polymorphonuclears, 57 per cent.; lymphocytes, 40 per cent.; transitionals, 2 per cent.; eosinophils, 1 per cent.; nucleated red cells, 1.

The urine, Feb. 7, was straw colored, and acid in reaction. There was a slight sediment. There was no albumin, sugar, phosphate or pus. Subsequent urine examinations were also

---

* From the Department of Pediatrics, University of Minnesota Medical School.

1. Taylor, Rood: The Fate of Subcutaneously Injected Red Blood Cells, Am. J. Dis. Child. **20**: 337-340 (Oct.) 1920.
2. Tobler, L.: Zur Technik der diagnostischen Blutentnahme und der intravenose Injection beim Saugling, Monatschr. f. Kinderh. **8**: 384, 1915.
3. Helmholz, H. F.: The Longitudinal Sinus as a Place of Preference in Infancy for Intravenous Aspirations and Injections, Including Transfusion, Am. J. Dis. Child. **10**: 194 (Sept.) 1915.
4. Siperstein, D. M., and Sansby, J. M.: Intraperitoneal Transfusion with Citrated Blood, Am. J. Dis. Child. **25**: 107 (Feb.) 1923.
5. Siperstein, D. M.: Intraperitoneal Transfusion with Citrated Blood, Am. J. Dis. Child. **25**: 202 (March) 1923.

negative. The blood Wassermann reaction was negative repeatedly. The patient was found to be in Group II.

*Progress.*—The child on admission was fed by gavage on lactic acid milk formulas. After being in the hospital one month, it had not gained in weight to any extent. It appeared to be progressively growing weaker and more apathetic.

February 25, a severe anemia was evident. Blood examinaion showed: hemoglobin, 15 per cent.; erythrocytes, 1,340,000; leukocytes, 31,400; differential count: polymorphonuclears, 46 per cent.; lymphocytes, 46 per cent.; eosinophils, 6 per cent.; basophils, 1 per cent.; nucleated red cells, 1. The erythrocytes had definite pale centers. Anisocytosis was also present. The weight was 2,920 gm.

The child was given 50 c.c. of citrated blood intraperitoneally. There was practically no temperature reaction, and there was no abdominal distention.

February 26, the blood picture showed slight improvement. Antisyphilitic treatment was instituted; mercury with chalk, 1 grain, three times a day, and 2 minims of 1 per cent. solution of mercuric chlorid intramuscularly twice a week.

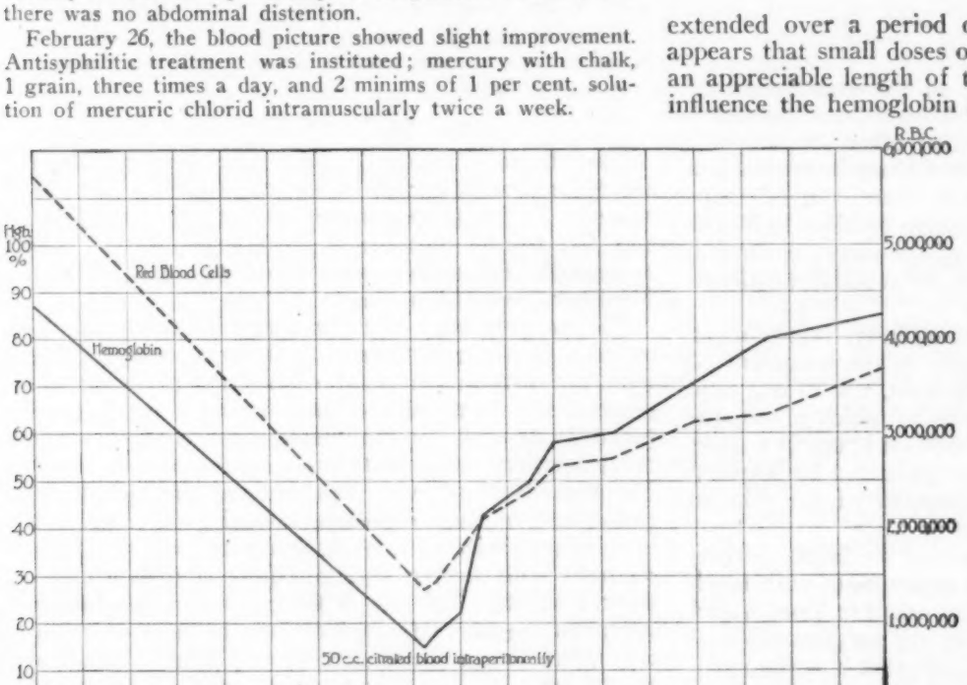



**Chart 1 (Case 1).—Hemoglobin and erythrocyte curves.**

March 2, the child appeared a little brighter.

March 6, it took food well.

March 10, antisyphilitic treatment was discontinued.

March 13, the child was much improved. Gavage feeding was supplemented by bottle feeding.

TABLE 1.—*Comparative Data Regarding Hemoglobin and Erythrocyte Counts in Case 1*

| Date | Hemoglobin Per Cent. | Erythrocytes | Comment |
|---|---|---|---|
| 1/23 | 87 | 5,720,000 | |
| 2/25 | 15 | 1,340,000 | Intraperitoneal transfusion of 50 c.c. of citrated blood |
| 2/26 | 18 | 1,440,000 | |
| 2/28 | 22 | 1,760,000 | |
| 3/2 | 43 | 2,110,000 | March 1, antisyphilitic treatment instituted |
| 3/6 | 50 | 2,400,000 | |
| 3/8 | 58 | 2,650,000 | |
| 3/13 | 60 | 2,730,000 | March 10, antisyphilitic treatment discontinued |
| 3/20 | 71 | 3,123,000 | |
| 3/26 | 80 | 3,192,000 | |
| 4/5 | 85 | 3,690,000 | |

March 26, the child's condition was good. It weighed 3,480 gm.

March 29, it weighed 3,600 gm.

April 5, the child was discharged.

This case is interesting because of the apparent rapid response to a single transfusion, the hemoglobin increasing from 15 to 80 per cent. in one month (Table 1, Chart 1). The patient's weight and general condition went hand in hand with the improvement in the blood picture. It is difficult to attribute such a marked change to the mercury treatment, which

TABLE 2.—*Blood Examination in Case 2.*

| Date | Hemoglobin Per Cent. | Erythrocytes | Comment |
|---|---|---|---|
| 3/7 | 80 | 5,000,000 | |
| 3/26 | 85 | 4,900,000 | |
| 3/27 | 75 | 4,720,000 | 100 c.c. of citrated blood intraperitoneally |
| 3/29 | 85 | 5,590,000 | |

extended over a period of only ten days. While it appears that small doses of mercury administered over an appreciable length of time may, in some instances, influence the hemoglobin and erythrocyte count,[6] it is not at all probable that a day's treatment should account for a rise in hemoglobin from 22 to 43 per cent. This improvement persisted even after the withdrawal of mercury. It would therefore appear that the medication in this case had little effect on the blood picture and the general condition.

CASE 2.—*Prematurity; third degree cleft palate. History.*—An infant, aged 10 days, admitted, Feb. 27, 1923, to the pediatric service of Dr. E. J. Huenekens at the Minneapolis General Hospital, because of loss in weight and a third degree cleft palate, was two months premature. The birth weight was 2,500 gm. The family history was negative. Four other children were living and well.

*Examination.*—The child appeared markedly undernourished, and presented a number of congenital malformations. The left eyeball was not developed, and the lids of that eye were adherent. The right eye showed a mild conjunctivitis. The weight was 2,200 gm. Physical examination was otherwise negative.

February 28, the urine examination was essentially negative. The blood examination, March 7, revealed: hemoglobin, 80 per cent.; erythrocytes, 5,000,000; leukocytes, 29,700; differential count: polymorphonuclears, 58 per cent.; lymphocytes, 36 per cent.; transitionals, 6 per cent. The blood Wassermann reaction was negative. The coagulation time was five minutes; the bleeding time, two minutes.

*Progress.*—The child, on admission, was fed, by gavage, casein milk formulas with increasing amounts of dextrimaltose. One month after admittance, there was very little increase in weight. During the child's entire stay in the hospital, its condition remained practically unchanged.

March 27, the child was listless; it weighed 2,060 gm.

March 28, 100 c.c. of citrated blood was given intraperitoneally.

March 30, the child died. At necropsy, 20 c.c. of thick, viscous material was recovered. No clots or adhesions were present.

CASE 3.—*Erysipelas. History.*—An infant, aged 7 weeks, admitted to the contagious service at the Minneapolis General

6. Keyes, E. L.: The Effect of Small Doses of Mercury in Modifying the Number of Red Blood Corpuscles in Syphilis, Am. J. M. Sc. 71: 17, 1876.

Hospital, March 26, 1923, because of restlessness, and a rash on the elbow and hip of one week's duration, had been born at full term, with normal delivery. The family history was negative. The past history was negative except for a slight swelling on the right side of the neck a week previous to admission. This disappeared spontaneously.

*Examination.*—The child was fairly well developed, but undernourished and crying as though in pain. The temperature was 103.6 F. The face and neck presented slight redness, more marked on the nose. There was slight adenopathy of the anterior cervical glands. The mouth showed a questionable stomatitis involving the palate. The eyes, ears, heart, lungs, abdomen, liver and spleen were all normal; the buttocks presented a discrete area of redness and swelling about 12 inches in circumference. The extremities were normal except for a similar redness and swelling involving both wrists and forearms.

The urine examination, March 27, was essentially negative. Repeated examinations were negative. Unfortunately, no blood examinations were made.

*Progress.*—The child, on admission, was fed on breast milk, complemented with casein milk and 5 per cent. dextrimaltose. Magnesium sulphate solution and alcohol-glycerin packs were applied to the inflamed areas.

March 29, the inflammation appeared to be spreading down the right lower limb.

March 30, the inflammatory process was extending toward the left axilla anteriorly.

March 31, the entire left foot was inflamed. The temperature ranged between 101.6 and 103.6. The child's condition was bad. There was marked pallor. It refused food.

April 1, the redness was spreading over the chest. The child's condition was serious. The temperature was 102. Severe secondary anemia was evident; 70 c.c. of citrated blood was given intraperitoneally. There was no temperature reaction.

April 2, the child appeared improved. It took feedings well. The fever was declining.

April 4, the redness was disappearing, the color, improving; the temperature was 99.

April 6, the inflammatory process had entirely gone; medication was discontinued; the temperature was 98.

April 7, the child was discharged.

April 18, outpatient department examination was negative; the child was in good condition.

TABLE 3.—*Comparative Data Regarding Hemoglobin and Red Blood Cell Counts in Case 4*

| Date | Hemoglobin Per Cent. | Erythrocytes | Comment |
|---|---|---|---|
| 3/13 | 38.5 | 3,000,000 | |
| .... | .... | ..... | 3/16, 300 c.c. of citrated blood intravenously |
| 3/20 | 35.0 | 2,930,000 | |
| 3/23 | 38.5 | 2,730,000 | |
| 3/26 | 45.0 | 3,200,000 | |
| 3/29 | 45.0 | 3,610,000 | |
| 3/30 | 42.0 | 3,350,000 | 500 c.c. of citrated blood intraperitoneally |
| 3/31 | 45.0 | 3,950,000 | |
| 4/1 | 45.0 | 3,900,000 | |
| 4/2 | 52.0 | 4,120,000 | |
| 4/3 | 52.0 | 4,000,000 | |
| 4/4 | 60.0 | 4,320,000 | |
| 4/6 | 70.0 | 4,880,000 | |
| 4/7 | 70.0 | 4,760,000 | |
| 4/14 | 70.0 | 4,730,000 | Day of operation |
| 4/18 | 66.0 | 4,800,000 | |

The patient's general condition improved markedly following the transfusion. Whether or not the transfusion shortened the duration of the disease, we are unable to say.

CASE 4.—*Fibroid uterus; secondary anemia. History.*—A woman, aged 45, admitted to the service of Dr. F. L. Adair at the Minneapolis General Hospital, complained of a bloody vaginal discharge and some backache. Physical examination and laboratory evidence showed a fibroid uterus accompanied by a marked secondary anemia. In order to prepare the patient for a later operation, an intravenous transfusion of citrated blood was decided on. Owing to the patient's obesity, it was necessary to expose a vein in the elbow, and, with some difficulty, 300 c.c. of blood was injected. There was apparently no change in the blood picture.

Two weeks later, 500 c.c. of citrated blood was injected intraperitoneally, by means of a trocar. The procedure was apparently harmless. Her general condition appeared much improved following the intraperitoneal transfusion, and the change in the blood picture was also satisfactory (Table 3, Chart 2).

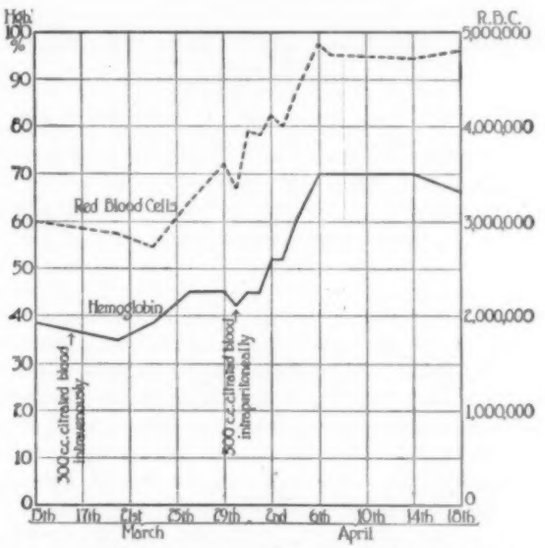



Chart 2 (Case 4).—Hemoglobin and erythrocyte curves.

At the operation, two weeks after the intraperitoneal transfusion, a few cubic centimeters of blood-stained fluid was found in the posterior culdesac. There was no evidence of peritonitis. There were no clots in the abdominal cavity. There were no adhesions. A supravaginal hysterectomy and an appendectomy were performed. The recovery was uneventful.

As far as we know, this is the first instance in which an intraperitoneal transfusion of citrated blood was given to an adult. Absorption from the peritoneal cavity, increase in blood values and clinical improvement were undoubtedly interdependent. The laparotomy afforded an excellent opportunity to observe directly what had previously been deduced only indirectly, namely, that absorption does take place from the peritoneal cavity of man.

A complete and detailed report of this case is being prepared by Dr. W. P. Sadler of the department of gynecology.

## INTRAPERITONEAL INJECTION

The intraperitoneal route as an avenue for therapeusis is not an altogether new procedure. A review of the literature shows that as early as 1875 an attempt was made to apply it clinically by Ponfick,[7] Giovanni,[8] Liegl[9] and others. They injected defibrinated blood into the abdominal cavity of patients, but clinical improvement was variable.

No further application was made of this procedure until 1918, when Blackfan and Maxcy[10] called the attention of the profession to the safety of the intra-

7. Ponfick: Experimentelle Beiträge Zur Lehre von der Transfusion, Virchows Arch. f. path. Anat. **62**: 273 (Jan. 20) 1875; Berl. Klin. Wchnschr. **16**: 589 (Sept. 29) 1879.

8. De Giovanni, A.: Uno caso di gravissima anemia felicemente mediante la trasfusione di sangue intraperitoneale, Raccolt. da Marsolo, Gazz. med. ital. **24**: 39 (Nov.) 1881; abstr. Jahresb. f. d. ges. Med. **16**: 240, 1881.

9. Liegl: Ueber peritoneale Transfusion, Aerztl. Int. Bl. **31**: 33, 49, 1884.

10. Blackfan, K. D., and Maxcy, K. F.: Intraperitoneal Injection of Saline Solution, Am. J. Dis. Child. **15**: 19 (Jan.) 1918.

peritoneal route as a rapid method of giving saline solution. At present, the intraperitoneal injection of physiologic sodium chlorid solution and glucose solution in dehydrated infants is a recognized, valuable therapeutic procedure.[11]

The introduction of citrated blood into the peritoneal cavity apparently affords another opportunity to utilize the abdominal route as a therapeutic medium.

---

## CHRONIC SPLENOMEGALIC HEMOLYTIC JAUNDICE

### WITH THE ISOLATION OF A STREPTOCOCCUS FROM THE SPLEEN *

JACOB MEYER, M.D.
AND
ISADORE PILOT, M.D.
CHICAGO

Chronic hemolytic jaundice with splenomegaly is a condition of obscure etiology. The disease has been ascribed by Widal to a congenital condition of the red blood corpuscles, which are destroyed in the circulation and their products taken up by the spleen with resulting splenomegaly. Minkowski and his co-workers hold that the condition is due to an increased hemolytic activity of the spleen. Rolleston[1] states that the acquired form "may occur without obvious cause, as after some infection acute, such as streptococcic or pneumococcic, or chronic, such as tuberculosis or malaria," and that he has seen it develop after measles. It is apparent that various infections act in a nonspecific way, exciting some unknown latent factors which are the true underlying causes. The observations recorded here are believed of interest because of the dominant rôle of infection in precipitating the condition; furthermore, the extirpated spleen contained considerable numbers of streptococci. A review of the literature shows few bacteriologic observations in this disease. In a report by Elliott and Kanavel,[2] cultures were made of the spleen by Kendall, who obtained short bacilli occurring singly and in pairs, which produced no effect when injected into rabbits. Cocci have not been noted in hemolytic icterus, but Sellards[3] cultivated micrococci from the spleens of three patients with pernicious anemia.

#### REPORT OF CASE

N. L., aged 7, seen in June, 1921, had not complained, but was "feverish," and the mother desired an examination. The child was fairly nourished and sallow, with a temperature of 102, respiration, 20, and pulse, 90. The heart and lungs were normal. The abdomen was soft and relaxed, and the spleen was palpable, extending about 1 cm. below the costal margin. No other findings were noted. The following morning the child was apparently well.

In August, the patient was suddenly seized with severe abdominal pains, and vomited. About half an hour after the attack, the pain had disappeared; there was no localized tenderness or rigidity over the abdomen. The temperature by mouth and rectum was normal. The spleen was enlarged, and was noted to be about 2 cm. below the costal arch. When asked where he had felt his pain, the child placed his finger in the region of the gallbladder. A history was now obtained that the child had had similar attacks, "due to overeating and excitement." No medication was given. The next morning, the child had no complaints, but the scleras were icteric. A diagnosis of cholecystitis was suggested.

In September, he was seen during an attack of abdominal pain and vomiting. He was taken to the hospital. A physical examination revealed an enlarged spleen and a palpable liver. The temperature was normal; the leukocyte count was 26,000 per cubic millimeter. The clinical picture did not suggest any indication for surgical intervention, but he was kept under observation. The red cell count was 4,200,000, and later, 3,800,000; the hemoglobin was 85 per cent. On fluoroscopic examination, the liver and spleen appeared enlarged, the former pressing on the stomach. The Wassermann test on the blood was negative. The presence of an enlarged spleen and liver, associated with attacks of abdominal pain and vomiting followed by a jaundice, suggested that the case might be one of splenomegalic hemolytic jaundice. A fragility test of the red blood cells was made, and it was found that hemolysis began at 0.700 and was complete at 0.500. The urine contained demonstrable amounts of urobilin. A blood culture test was negative. Inquiry now elicited the fact that the child was jaundiced at birth. There was no history of any similar trouble in the family of the father or mother. Wassermann tests of both parents were negative. The parents were advised of the condition; operation was suggested, but consent was not obtained. The child improved on a bland diet.

Seven months later, in February, 1922, the patient was seen again for what first appeared to be an upper respiratory infection. After a few days, there was severe bronchopneumonia, with local findings of consolidation in the left lower lobe. The course of the disease was one of sepsis, the temperature rising to 103 or 104, with remissions to 99 in the morning; the leukocyte count was 36,000, and the course was terminated by lysis on the tenth day. The anemia and the icterus were more marked than previously. The liver and spleen were greatly enlarged. Blood culture tests were negative. Recovery and convalescence followed.

In May, the patient developed a "sore throat," with a temperature of 101. There were no local findings of inflammation in the throat, but the child had the appearance of being sick. The following day, restlessness and irritability were noted. The child complained of various aches and pains. A marked anemia, jaundice and toxemia had developed. The enlarged liver and enlarged spleen were the only positive physical findings. The patient was again removed to the hospital. Examination of the blood showed a leukocytosis of 12,500; red count, 1,400,000; hemoglobin (Dare), 30. A blood smear revealed slight anisocytosis; blood culture tests were negative, and urobilin was found in the urine. Two days later, the child was transfused with 250 c.c. of the father's whole blood, and on the following day there was an apparent improvement in the general condition, followed by subsequent rise in temperature, which later dropped by lysis. During the course of the last attack, and preceding the operation, a systolic murmur was noted at the apex. This was associated with a tachycardia. Sodium cacodylate and ferric cacodylate were given daily. Improvement followed; the patient became afebrile on the eleventh day after admission.

One month later, the spleen was removed. It was large, soft and free, and weighed 1,000 gm. The gallbladder was normal and did not contain stones. The appendix was also removed. Histologic sections of the spleen revealed the capsule not thickened. The trabeculae were thin and far apart. The malpighian bodies were widely separated, and revealed active germinal centers and congestion. The pulp was markedly congested, and was filled with red blood cells and pigment. The sinuses were numerous, some appearing newly formed. They were dilated and filled with cells of different types, predominately erythrocytes, a few erythroblasts, many lymphycytes, and a few polymorphonuclear leukocytes, many of which were of the eosinophilic type. In addition, there occurred numerous macrophages filled with blood pigment. Bacteria were not found. No abscesses were present.

---

11. Marriott, W. McK.: Some Phases of the Pathology of Nutrition in Infancy, Am. J. Dis. Child. **20**: 461 (Dec.) 1920.

* From the Department of Pathology and Bacteriology, University of Illinois College of Medicine.

1. Rolleston, in Oxford Medicine **3**: 310.
2. Elliott and Kanavel: Tr. Am. Surg. A. **33**: 238, 1915.
3. Sellards, A. W.: New Orleans M. & S. J. **69**: 502-518 (Jan.) 1917.

The patient recovered quickly after the operation. Nine months later he had gained 16 pounds (7.2 kg.); the hemoglobin was 90 per cent.; red blood count, 5,000,000.

Jan. 5, 1923, the patient was seen during an acute attack of influenza. The temperature was 103; the pulse, 100. There were no positive physical findings and no abdominal discomfort. The liver was not palpable. The urine was examined, but no urobilin was demonstrable. No jaundice, toxic symptoms or anemia appeared. The next morning, the temperature was 99; it rose to 101 in the afternoon, and the following day was normal. No jaundice or other sequelae developed, and in a few days the child was up and about.

In fragility tests of the patient's corpuscles, made April 10, 1923, hemolysis ranged from 0.350 to 0.500 per cent. sodium chlorid. Similar tests on the father's and mother's cells gave hemolysis from 0.350 to 0.400. These findings, together with an absence of clinical history, would indicate that the parents were not affected and that the boy had had the acquired form of hemolytic icterus.

### BACTERIOLOGIC FINDINGS

Cultures were made by inoculating one loopful of splenic pulp of the extirpated spleen immediately into 10 per cent. blood agar. Innumerable small biconvex colonies surrounded by grayish green zones appeared as a pure growth. Smears revealed gram-positive cocci in chain formation. In dextrose broth, the organisms formed a granular sediment settling along the sides and bottom of the tube, while the supernatant fluid was clear. Dextrose was fermented, while salicin, mannite and inulin were not broken down. The cocci in broth were oval, and formed extremely long chains. The streptococci resembled *Streptococcus viridans*, and on the basis of carbohydrate fermentation, belonged to the group of *Streptococcus salivarius*.

Sediment of 15 c.c. of dextrose broth cultures was injected intravenously into a rabbit. No symptoms appeared. The animal was killed, and necropsy revealed no gross lesions. Sediment of 25 c.c. of dextrose broth was injected intravenously into a second rabbit weighing 750 gm. The animal became ill, lost weight rapidly, and died within eight days. Necropsy revealed pericardial and endocardial petechial hemorrhages, marked congestion of the spleen with a few hemorrhages, and petechial hemorrhages in the kidneys. No endocardial vegetations or arthritis were present. No icterus was apparent. The heart's blood on culture contained *Streptococcus viridans*. Microscopic sections of the lungs revealed slight bronchopneumonia. The myocardium presented diffuse round cell infiltration and swelling of the fibers. In the liver, areas of focal necrosis, together with areas of hemorrhage, occurred. In the kidneys were scattered areas of round cell infiltration about the tubules, with degeneration of some of the cells lining the tubules. The spleen showed marked dilatation of the vessels, with a few areas of hemorrhage.

### COMMENT

The occurrence of a streptococcus in the enlarged spleen is of special interest in connection with its possible etiologic significance in exciting the clinical picture. From the history, the icterus each time followed infection. It is very probable that the last attack resulted from a mild tonsillitis, streptococcal in origin. The streptococci may have entered the general circulation, to be filtered out in the spleen. An endocarditis may have coexisted, although clinical findings of valvular involvement were not sufficient to indicate such a condition. Unknown factors may have been reawakened in the infected spleen and caused the reappearance of the hemolytic jaundice. The streptococcus, however, is not a specific excitant, as apparently other types of infection may initiate the symptoms of splenomegalic jaundice.

### SUMMARY

A streptococcus similar to *Streptococcus viridans* was isolated from the spleen of a child, aged 7 years, who presented the clinical picture of chronic splenomegalic hemolytic jaundice. Mild and severe infections may initiate as well as aggravate the symptomatology of this disease. On removal of the spleen, recovery took place, and the subsequent development of an acute influenza was not accompanied by any evidence of hemolytic activity.

---

## SOME ORIGINAL BLOOD PRESSURE OBSERVATIONS *

VIRGIL C. KINNEY, M.D.
WELLSVILLE, N. Y.

A correct interpretation of blood pressure findings is becoming a matter of the greatest importance. The time has gone by when the mere knowledge of a patient's systolic blood pressure was all that was necessary in order to arrive at a correct diagnosis.

In the study of cardiovascular renal diseases, we find many diversified and interesting phenomena. These are each varied and distinct factors, but so closely related that they must all be taken into consideration if we are to arrive at intelligent conclusions. We have alterations (1) in the composition of the blood itself which are caused either by changes in the corpuscular content, by variations in the blood viscosity, or by circulating toxins; (2) in the venous pressure; (3) in the cardiac rhythm, and (4) of the greatest importance, and either temporary or permanent, in the caliber of the arterial venous and capillary circulation.

### SAME SYSTOLIC PRESSURE IN DIFFERENT CONDITIONS

Although the systolic pressure tells us how high or how low the general blood pressure is ranging, it is to the diastolic pressure that we must go for more reliable and accurate information. A number of patients may show identically the same systolic pressure and still be suffering from entirely different conditions.

To illustrate this, I shall give three different examples.

EXAMPLE 1.—In a patient in whom the pulse rate was 72, the systolic pressure was 145; the diastolic pressure, 90, and the pulse pressure, 55.

Here the pulse rate is normal, and the pulse pressure is normal. We also have a normal cardiac load, a normal cardiac response and a normal peripheral resistance.

EXAMPLE 2.—In a patient in whom the pulse rate was 90, the systolic pressure was 145; the diastolic pressure, 110, and the pulse pressure, 35.

Although the systolic pressure is the same as in Example 1, we now have a different relationship of our parts. The pulse rate is now high; the pulse pressure is low; the peripheral resistance is high; the cardiac load is high; the cardiac response is low, and the myocardium is probably weakened.

EXAMPLE 3.—In a patient in whom the pulse rate was 58, the systolic pressure was 145; the diastolic pressure, 40, and the pulse pressure, 105.

Here, again, the systolic pressure is the same, yet we have an opposite condition from that in Example 2. The pulse rate is now low; the pulse pressure is high; the peripheral resistance is low; the cardiac load is low,

* Read before Allegany County Medical Society, April 19, 1923.

while the cardiac response is high. This condition is caused by a great cardiac exertion superinduced by a capillary and arterial dilatation.

I could go on showing other cases in which the systolic pressure, per se, has little bearing on the general condition. The same holds good in the low blood pressure cases. It is the systolic pressure, the diastolic pressure and the pulse rate, along with cardiac, arterial and venous conditions, that must guide us in making a correct diagnosis.

As my purpose is to give in a condensed form some original observations extending over a period of four years, I will have to shorten this interesting phase of blood pressure findings. In making these observations, I have not had the advantage of thousands of cases; but the several hundred coming under my personal observation have each been subjected to a great deal of study, many of them over a period of several months.

### REVERSAL OF NORMAL BLOOD PRESSURE REACTION

Nearly four years ago, and quite by mistake, I found what I called "a complete reversal of the normal blood pressure reaction." It is a well recognized law of physics that a greater force is required to drive or force fluid to a height against gravity than is required to pump this fluid through the same calibered tube on the horizontal. Strangely enough, without taking into consideration the nervous rôle regarding vasoconstrictors and vasodilators, heart tone and elasticity of the blood pathways, we had applied this physical law to blood pressure, and had taken for granted the fact that blood pressure would naturally be higher with the patient standing than while lying supine.

In a large proportion of both the high and the low blood pressure cases, this law is reversed and the blood pressure is higher in the patient lying supine than when the patient is standing.

Example 4.—In my first case showing this reaction, the systolic pressure, with the patient supine, was 240; the diastolic pressure, 135, and the pulse pressure, 105. When this patient stood on her feet, the systolic pressure was 194; the diastolic pressure, 110, and the pulse pressure, 84.

This case was a reversal of an extreme type and, strangely enough, out of the next seventeen cases of cardiovascular renal disease examined, twelve showed this reversal of blood pressure. So in these cases, after the patient lies supine a certain time and then assumes a standing position, we find that the height of the systolic pressure drops, the pulse pressure drops, the peripheral resistance is lowered and the heart response is lowered, as is also the cardiac load.

In a large majority of patients with heart and kidney disease who cannot breathe well lying supine, but who feel better walking around or propped up in a chair, this phenomenon occurs. So it is that in certain patients who have a very high systolic pressure and a high peripheral resistance when supine, which drops from 20 to 40 mm. on standing so that a stroke of apoplexy is imminent, I wisely keep them standing or sitting as much as possible, and propped high on pillows during the night.

This reversal pressure is also to be found in low blood pressure cases.

Example 5.—In a patient in whom the systolic, diastolic and pulse pressures, when the patient was supine, were respectively, 100, 70 and 30, they became 86, 64 and 22 when the patient was standing.

Here we have the same condition existing in our hypotension cases as in our hypertension cases; e. g., the same lowered systolic pressure, the same lowered diastolic pressure, and lowered peripheral resistance, heart response and cardiac load.

This case is rather interesting:

Example 6.—A married woman, aged 28, previously well, became extremely weak, and finally was unable to walk. A physical examination was negative as to any organic changes. With the patient lying supine, the heart action and capillary circulation seemed fair, but the blood pressure was too low: systolic, 94; diastolic, 76; pulse pressure, 18. Every factor was too low. Then the patient was slowly lifted to her feet, when the systolic pressure became 82; the diastolic pressure, 70, and the pulse pressure, 12. This condition lasted for perhaps fifteen seconds, when the systolic pressure dropped to 76 mm., the diastolic pressure to 62 mm., and both disappeared. The patient in the meantime had turned a ghastly white, the knees gave way, and the signs were those of rapidly approaching death. Within two minutes from the time she assumed the supine position, the systolic pressure, diastolic pressure and pulse pressure had returned to their former readings. This patient made an uneventful recovery.

### CAUSE OF REVERSAL PHENOMENON

To what cause or causes is this reversal phenomenon attributable? Not to one cause, I believe, but to many. In some cases, a condition of so-called splanchnic neurasthenia exists with a lowered tone in the mesenteric blood vessel walls. If this condition exists and the patient lies supine, no change is evident. However, let this patient assume a standing position, and the mesenteric vessels dilate and act as reservoirs, drawing much blood from the general circulation, and the blood pressure drops.

In most of my reversal cases, the readings obtained follow a rather general course. Whether the patient examined is a hypertension or a hypotension case, the reversal reaction is due, not to a simple lowering of the systolic pressure with a change and variation of the other factors, but to a general lowering of all the readings. Not only does the systolic pressure drop, but, along with this, we have a lowered pulse pressure, a lessened cardiac load, and a lowered cardiac response.

This has led me to believe that probably the arterial, venous and capillary systems all undergo a simultaneous dilatation; and this, coupled with a weakened myocardium which, under the extra strain of standing, does not actively respond, would seem to explain the reversal phenomenon.

What I believe is greatly needed is some standardized system of taking blood pressure. A patient who visits many physicians within a period of a week or two may be told a different reading by each, because one physician may take the blood pressure standing and another sitting, while the third may take it with the patient supine.

If all take it with the patient supine, one may get the reading as soon as the patient assumes the position, another may catch it one or two minutes later, and still another after the patient has been supine for five minutes or longer. In each of these conditions, the blood pressure may show a variation amounting to many points.

In my own blood pressure taking, I follow a standardized technic. Of course, there are nervous elements to be encountered; again, eating and exercising will cause unavoidable variations in our readings. Contrary to a common belief, sexual excitement or sexual

indulgence, in the few cases in which I have been able to obtain accurate data, has not produced a temporary increase in blood pressure.

In making accurate tests in 100 variable cases, I had some rather surprising results. Tests were taken on the patient assuming the standing posture, standing one minute and standing five minutes; when first assuming the supine position, supine one minute; supine five minutes, and supine ten minutes.

With the patient standing for different periods of time, the results were variable, and nothing characteristic was found. In the tests with the patient supine, the results were interesting and fairly constant.

### CASES IN WHICH PRESSURE IS HIGHEST WHEN SUPINE POSITION IS FIRST ASSUMED

In a large percentage of cases, and especially in the reversal cases, the pressure is highest at just the time the patient assumes the supine position, becoming less after one minute, and dropping to its constant level in five minutes, as shown in the accompanying table.

*Pressure Readings in Supine Position*

| Pressure | At Time of Assuming Position | After 1 Minute | After 5 Minutes | After 10 Minutes |
|---|---|---|---|---|
| Systolic ..... | 185 | 182 | 174 | 174 |
| Diastolic ..... | 100 | 96 | 88 | 88 |
| Pulse ..... | 85 | 86 | 86 | 86 |

Not all cases give this reaction, but a great many do, so that it is well to have the patient taken at just a certain time for each observation; otherwise, an incorrect reading may result.

### A PECULIAR REACTION

I have observed an interesting phenomena many times, especially in the hypotension cases. I have some theories regarding its causes, but none of sufficient importance to put into writing. This peculiar reaction I found mostly when a low blood pressure patient first assumed the standing position.

EXAMPLE 7.—*Patient when first assuming a standing position.* The systolic pressure is 100; the diastolic pressure, 0, and the pulse pressure, 100.

Instead of a true "tunk," a loud sound resembling a carotid bruit is heard through the stethoscopic Pilling sleeve, and as the air is gradually removed from the mercurial apparatus, this apparent diastolic sound keeps on down the scale, getting louder and louder, until it reaches its greatest intensity at zero. After a period ranging from thirty to forty seconds, this sound gradually diminishes in intensity, is no longer heard at zero, ascends the scale, and in about ten seconds more ends as a straight diastolic sound at perhaps 80 mm. Then we have:

EXAMPLE 8.—*After loud bruit has disappeared and the characteristic tunk is again established.* The systolic pressure is 100; the diastolic pressure, 80, and the pulse pressure, 20.

Why the peripheral resistance should be so greatly lowered is a question to be solved later. Or is it really lowered? Possibly the true diastolic pressure ended at 80 mm., but this could not be determined because of the ever increasing extra sound, i. e., if this is an extra sound.

### CONCLUSIONS

In making careful blood pressure observations, one is often confronted with strange conditions and variations, which are puzzling, to say the least. Scientific investigation has already cleared many of these difficulties, but much more work remains to be done before blood pressure reactions can be interpreted in their truest sense.

---

## INTRA-UTERINE TRANSMISSION OF ANTHRAX

### REPORT OF CASE *

JOSEPH C. REGAN, M.D.,
ABRAHAM LITVAK, M.D.
AND
CATHERINE REGAN, M.D.
NEW YORK

The possibility of the transmission of anthrax to the fetus of pregnant animals following the inoculation of these animals with anthrax cultures was denied for many years. Pollender, Brauell, Davaine, Bollinger, Wolff and others contended, as a result of experimental work, that the placenta of the experimental animals used afforded an impermeable barrier against this micro-organism. To Strauss and Chamberland [1] must be given the credit for proving that intra-uterine infection may be induced experimentally in animals. These investigators, by the use of modern methods (cultures and animal inoculation of these cultures), were able to prove that the placental barrier was not as impermeable as previous workers believed, and that while not constantly, yet in a good proportion of experiments, infection of the fetus could be produced. Subsequently, other writers confirmed these conclusions, using various animals (guinea-pigs, dogs, pigs) for inoculation.

There are extremely few reports in the literature of anthrax occurring during pregnancy in the human being. Morisani [2] and Romano [3] each separately observed the disease in a pregnant woman who, in each instance, succumbed to the infection, but both writers state that they could find no evidence of transmission to the fetus. Eppinger,[4] in a single observation, also fatal, found anthrax bacilli in the chorionic villi but not in the fetal organs or blood. Paltauf [5] was apparently the first to report an instance of transmission of the disease in man. This writer mentions the case of a woman who was in the fifth month of pregnancy when she was infected, and developed a malignant pustule, of which she quickly died. On necropsy, he was able to recover anthrax bacilli from the lungs of the fetus. The methods Paltauf used were not thorough enough, however, to establish the question beyond dispute, and it is to Rostowzen [6] that really must be conceded the credit of conclusively establishing the fact that human transmission may occur. In 1897 he reported three instances of placental transmission in women who were respectively four, seven and eight months pregnant, and all of whom succumbed to a malignant pustule of the face. By

* From the Kingston Avenue Hospital of the Bureau of Hospitals, Department of Health, New York City.

1. Strauss, I., and Chamberland, C.: Passage de la bactérie charbonneuse de la mère au fétus, Mém. Soc. de biol., Series 4, 1882, p. 804.
2. Morisani, D.: Sopra un caso di pustulo maligno, Il Morgagni, 1886.
3. Romano, S.: Sopra un caso di pustulo maligno, Il Morgagni **1**: 1888.
4. Eppinger, H.: Wien med. Wchnschr., 1888, No. 37.
5. Paltauf, R.: Wien. klin. Wchnschr. 1888, No. 18.
6. Rostowzen, M. J.: Ueber die Uebertragung von Milzbrandbacillen bein menschen von der Mutter auf die Frucht bei Pustulo maligno, Ztschr. f. Geburtsh. u. Gynäk. **37**: 342, 1897.

careful cultural work of the blood, placenta and viscera of the fetus, including also animal inoculations of the cultures recovered and study of the tissues of the viscera in each case, he was able to prove that the anthrax bacilli were present in the organs of both mother and child in all three instances.

Subsequent to the report of Rostowzen and up to the present time, our search of the literature has not rewarded us with the finding of any further instances of placental transmission. We now add to the literature of the subject—which, in passing, one may well emphasize seems to be entirely nonexistent in the English language—another case of intra-uterine infection, making apparently the fifth on record.

## REPORT OF CASE

*History.*—A married woman, aged 22, was admitted to the Kingston Avenue Hospital, Dec. 29, 1921, at 9 p. m., because of probable anthrax. The family history was irrelevant. The patient had had the usual diseases of childhood, but during adolescence and adult life she had been very healthy and had never had any serious illness. She had been married for one year; her menstrual history had been regular until six months before admission, but since that time she had had no menstrual flow, and had been told by her family physician that she was pregnant. Her occupation was that of a housewife.

Sunday, December 25, the patient noticed a small papule on the left cheek. She paid no attention to it, as there was a complete absence of pain.

During the ensuing two days, the papule began gradually to enlarge. December 28, the region of the face around the papule began to swell, but as no pain was experienced, she was not alarmed. She went to a druggist for advice, and he gave her an ointment, which she used.

By the evening of December 28, the swelling had advanced considerably, involving the neck and the upper portion of the chest, and difficulty in respiration and deglutition began to be experienced. It was only then for the first time that the patient began to feel that she might be really ill. On the morning of December 29, she was able to walk to the office of her physician, who, on examination, immediately made a diagnosis of probable anthrax and referred her to this hospital. The patient had no knowledge of the manner in which she might have contracted the infection. Careful questioning regarding the purchase of new fur pieces, household brushes, braid for hats, etc., were entirely negative. Her husband had not recently purchased a new shaving brush, and he did not handle hides in his occupation.

*Physical Examination.*—The patient on arriving at the hospital insisted on being able to walk to her room. She was unusually well developed and nourished. Mentally she was bright, and responded to questions readily, and her answers were clear and concise. She was able to give a clear history of her illness, and stated that she would not feel so sick if it were not for the great difficulty she had in swallowing and breathing, conditions that compelled her to change her position frequently in order to make her respiration easier. She was slightly hoarse and quite thirsty, asking for water to drink; but when she was given the water she was able to swallow only a little. The patient seemed to be very optimistic of her recovery, and had no idea of how gravely ill she really was. She made no complaint of any pain in the lesion on her face.

On the left side of the face just in the region of the malar prominence, there was a small elevated papule-like lesion measuring about 1.5 cm. in diameter. It was composed of tissue of a fairly uniform consistency, was reddish pink, round, and had a slightly flattened top. On probing this top portion with a scalpel, one discerned for the first time that the central portion was an eschar, very hard and tenacious, almost leathery in consistency, and that it could not be lifted from its bed; it could be cut only with the greatest difficulty. It had a slightly more yellowish tinge than the remaining portion of the lesion. The lesion was practically insensitive. While in all these points it resembled anthrax, it lacked the vesicles, being perfectly dry, and had no red areola or indurated zone, and the eschar was not a typical cherry black. Around the base of the papule was a zone of purplish red ecchymosis measuring about 1.5 cm. in diameter, and beyond this was that soft edematous swelling so characteristic of the malignant edematous form of cutaneous anthrax. This swelling, beginning immediately around the papule, extended downward to the neck and lower thorax, especially on the left side, producing an enormous soft distention of the tissues and completely obliterating the normal anatomic markings filling out the supraclavicular and suprasternal fossae. This edematous area was not painful and was noncrepitant. Gentle scraping of the margins of the minute eschar-like area at the summit of the papule caused a serous, blood-stained fluid to exude, from which cultures were taken.

The pupils of the eyes were equal, and reacted to light and in accommodation. There was a marked edematous swelling of the left eyelids. The tongue was heavily coated. The throat was considerably congested around the fauces and pillars, with a tendency to edematous swelling of the mucous membrane.

The lungs gave negative results on examination. The first sound of the heart at the apex was of impaired muscular quality, the sounds at the apex and base being rather faint. No murmurs were heard. The pulse was of poor volume and the peripheral circulation showed a tendency toward stasis. On admission, the temperature was 97.8; the pulse, 90, and the respiration, 28.

The uterus extended to the level of the umbilicus. A globular mass was felt in the uterus. Fetal heart sounds were not heard. The liver and spleen were not palpable.

*Course.*—While the cutaneous lesion was not absolutely characteristic, there was sufficient evidence on which to base a diagnosis of cutaneous anthrax. It was therefore decided to give treatment at once. A blood culture was first taken, and then 110 c.c. of anthrax serum was injected intravenously, 20 c.c. intramuscularly, and 10 c.c. around the local lesion by the usual subcutaneous "blockage" method. A wet dressing of chloramin-T was then applied locally to the pustule. The patient had a slight chill during the administration of the serum, but the symptoms were very transient.

She remained in about the same condition until 7:20 a. m. of the following morning, when a decided change for the worse was noticed. Light stupor alternating with periods of restlessness supervened, the extremities became markedly cyanotic, the pulse imperceptible, and she died at 8 o'clock.

*Necropsy.*—The uterus, enlarged and containing a fetus of about the fifth or sixth month of gestation, was removed complete. A slight excess of clear, straw-colored fluid was present. The liver presented a few depressed scars on its surface, and on section it appeared soft, friable and deeply congested. The spleen was a purplish brown or red; on section, the normal markings were obliterated, and there appeared to be hemorrhagic areas on the pulp. The pancreas was soft and light yellowish brown. The suprarenals were normal microscopically. The kidneys seemed rather congested. The thyroid was normal microscopically, except for one blackish red nodular area on the border. The stomach showed moderate congestion. The upper portion of the small intestine appeared dilated, and the mucosa was deeply congested; in places there were swollen elevated areas on which were some yellowish patches. The pleural cavities showed a slight excess of straw-colored fluid. The heart was normal, except for a nodular thickening on one of the leaflets of the mitral valve. The right lung showed a depressed scar on the pleural surface of the apex. The lung tissue pitted on pressure, and the upper, middle and lower lobe had mottled, bluish red, elevated areas on the pleural surface measuring several (8 to 10) millimeters in diameter. On section, the tissue was moist and deep red; air could be expressed from the cut surface, and a large amount of dark, venous blood exuded. The left lung presented a similar condition.

The uterus was opened with careful precautions for sterility. When the amniotic sac was incised with sterile instruments and the fluid flowed forth, cultures were taken. The fetus was removed to an entirely different building; the surface of the body was carefully flamed, and with sterilized

instruments the viscera were examined. The surface of the organs having been treated with the actual cautery, they were incised, and cultures were taken from the heart's blood and liver.

Microscopic examination of the fetal lung revealed intense congestion of the alveolar walls; some alveoli filled with red blood cells, polymorphonuclears and a little fibrin; adjacent alveoli empty. In some areas, the alveoli were filled with an exudate of serum with a few red blood cells. The picture was that of intense congestion and edema of the lungs with some consolidation. In the spleen, congestion was generalized, there being hemorrhage in places. There was a moderate increase in the number of pus cells in the splenic pulp. The malpighian corpuscles showed a large number of lymph cells. In the kidney, the condition of congestion and focal hemorrhages was repeated. The cells were swollen, and showed cloudy swelling. There was marked congestion of the suprarenals, the cortical cells being swollen. There was diminished lipoid material, and hemorrhage in the capsule. In the thyroid, the alveoli were distended with colloid, and the capillaries were swollen and filled with blood. There was a moderate amount of fibrinoid material on the villi of the placenta. A few polymorphonuclears and desquamated epithelial cells were present. The capillaries of the liver were dilated and engorged. Square-cut, large, gram-positive bacilli like anthrax were found here and there in the liver of the fetus.

Cultures and smears taken before death from the lesion show gram-positive bacilli, which in subsequent transplants were isolated pure, were nonmotile and were pathogenic for a rabbit. The same organism was found in great numbers in the blood culture.

Smears from the heart, lung, liver, kidney, spleen and placenta of the mother after death showed large gram-positive bacilli, some in chains, squares ended, and some with a narrow capsule. Cultures on plain agar from the same organs gave colonies isolated and confluent, of a rather large, dry, grayish white opaque type, with hairlike extensions at their borders. Only the cultures from the lung showed a contaminating staphylococcus. Smears from the colonies showed gram-positive bacilli, square ended, occurring singly and in chains. Transplants from these colonies to plain broth gave a growth characterized by a pellicle formation with a stringy sediment in the bottom of the tube. The hanging drop showed the bacilli in this transplant to be nonmotile.

The cultures from the heart, liver and amniotic fluid of the fetus gave similar, but few, anthrax colonies. The organism recovered from these cultures was identical with that isolated from the viscera of the mother. Inoculated into a pregnant rabbit, these cultures from the mother and the fetus (in amount of 2 c.c. of a three-day broth culture) produced death within less than seventy-two hours. The same bacilli were recovered from the heart's blood and viscera of this animal in pure culture, and from the viscera of the fetus of the rabbit.

### COMMENT

In this instance, just as in the three patients of Rostowzen, it was a question of a very healthy, well-developed woman with an anthrax lesion of the face. On admission, she did not seem prostrated or dangerously ill, yet her blood stream already contained large numbers of anthrax bacilli, as the blood culture taken at the time subsequently showed. This is, indeed, a striking example of the little reliance that should be placed on clinical phenomena in this disease and emphasizes the necessity of an immediate blood culture in all cases, and the application of intensive intravenous treatment until the result is known.

The transmission of the disease to the fetus was undoubtably proved in the case we have reported, both by the cultures taken, at the necropsy of the mother, from the fetal heart's blood and liver, and by the finding of typical large, gram-positive bacilli in the microscopic sections of the fetal liver tissue. It is logical to believe that the transmission occurred through the placenta. While it is an ideal filter and barrier against penetration of bacteria, the placenta cannot be relied on to withstand the attack of certain pathogenic bacteria, and among the latter must be placed the anthrax bacillus. By no means a constant phenomena, it is nevertheless true that in certain infectious diseases, especially those in which a septicemia exists, the integrity and impermeability of the placenta is often partially destroyed, to such an extent at least as to allow the invading micro-organism to pass through. The epithelium of the chorionic villi may, for example, lose its protective power in conjunction with the general lowering of resistance of the cells in all portions of the body. In anthrax, particularly, it would seem that this protection may be interfered with mechanically by gross injury to those cells; for example, by hemorrhage and necrosis; and it is possible that the blood vessel walls may be more permeable.

It is quite probable that in a nonsepticemic case of anthrax, with recovery, the course of pregnancy might not be interfered with; but in the limited statistics available, the malady has usually assumed, as is commonly the case with all infections occurring at this time, its more severe and fatal form.

---

## THYROIDISM COMPLICATED BY HEART FAILURE

### REPORT OF A GROUP OF CASES *

BURTON E. HAMILTON, M.D.
BOSTON

The group of cases I am reporting comprises twenty-two individuals within a total of about 600 patients who have come to Dr. Lahey's clinic in the last three years because of thyroidism. In order that the small, more or less distinct, unit that this group forms within the whole mass of thyroidism cases may be clearly placed, it seems necessary to describe thyroidism cases in general.

If one considers all the cases of thyroidism, one finds that, excluding the few instances in which some complicating affection masks the picture, the patients who are most ill fall naturally into two rather distinct classes.

1. The larger class shows aggravated toxic symptoms of thyroidism alone, without signs of heart failure. When such patients die, they apparently succumb to exhaustion; they do not at any time show the true signs of heart failure. Three such patients have come to the clinic in an extremely advanced condition during the last year, and have died within a few hours of admission, not operated on, in spite of all palliative measures.

2. A smaller class shows more or less violent toxic symptoms, and, in addition, clean-cut signs of the congestive type of heart failure. And this means, not breathlessness and tachycardia alone, which all patients with thyroidism show to some degree, but gross evidences of venous congestion, such as (*a*) pulmonary congestion—orthopnea, with perhaps cough, râles, hemoptysis, and (*b*) systemic congestion—particularly engorgement of the liver, with perhaps tenderness and pain. Four such patients have come to the clinic during the last year, in an extremely advanced condition, and have died without operation.

---

* From the New England Deaconess Hospital.

Between these two groups are, indeed, many cases that show absolute disorder of the heart beat (auricular fibrillation), transient or established, associated with enlargement of the heart in varying degrees—cases that seem to threaten heart failure, but that do not show or give a history of its actual occurrence.

It is generally known that the severely toxic thyroid case of the first group can, under proper conditions, be treated surgically with success. For instance, it has been more than two years since, in a case of this sort, the patient has died following operation in this clinic; and the follow-up work shows a relatively steady succession of patients relieved of disability. But I am not aware that the second group has heretofore been differentiated and discussed, or the effect of treatment studied.

Though each case within the group (namely, the second group) with which this paper deals deserves separate consideration, the cases can best be discussed as a group, with selected cases given in detail for illustration.

The patients were not young; their average age was 51, about fifteen years higher than the average age of all the patients with thyroidism; they looked about twenty years older than they were. Mentally, they appeared stupid and bewildered; they were incapable of, or disinterested in, making mental as well as physical effort. They were emaciated; they were pigmented. Some had eye signs; some had symmetrical thyroid enlargement; some had neither. A few had adenomas of the thyroid. All had significantly and persistently elevated basal metabolism rates. All had definite enlargement of the heart—usually gross enlargement—shown by movements of the thoracic cage with the heart beat, and with the left border of the heart felt an inch or more outside the nipple or midclavicular line. All (except one) had auricular fibrillation—complete and continuous disorder of the heart beat; in most of the cases it could be judged that this had been persistent for months or years (one patient apparently had had it for twelve years).

All had gross signs of the congestive type of heart failure, varying in degree, and with a history or direct evidence of aggravation of these signs under effort. And I wish to emphasize that by signs of heart failure is meant, not breathlessness and tachycardia alone, which all thyroidism cases show, but evidence of venous congestion in the pulmonary or systemic circuit, or both. In detail, nearly all patients had orthopnea, many had cough and râles at the lung bases, and a few patients spat blood at times. These symptoms were found either only after exertion, or persistently but aggravated by exertion. Nearly all had, in varying degrees, enlargement of the liver and congestion of the neck veins. Nearly all had some edema; several had gross edema of the legs and ascites. All were disabled, nearly all to the point of complete invalidism; many of them had been in bed for months, some for more than a year before they came to us. They were very miserable beings, and they clearly appeared poor operative risks.

A fair example of these cases, one of the earlier members of the group seen, was Case 1.

CASE 1.—Mrs. A., aged 56, had been increasingly disabled, bedridden for part of the time, and barely about the rest of the time, for one and one-half years. She had a very large heart; auricular fibrillation; distinct orthopnea; engorged liver; edema of the legs extending up to the waist, and ascites. She was at first rejected as a surgical possibility. But after six months of watching, with medical treatment for her heart condition (during this time she also had ten roentgen-ray treatments), since she failed to die or to improve, a single superior pole ligation was successfully done, and the subtotal thyroidectomy completed six weeks later. At the end of three months, she was about, doing housework for herself and her husband, and during the last six months has also engaged in teaching. She has no complaints, and she has had no signs of heart failure since operation.

The least severe operative risk (the only man) was a physician:

CASE 2.—A man, aged 38, but appearing much older, was mentally torpid, and on entrance, had edema of the legs and abdominal wall. There were definite orthopnea and slight liver engorgement, but no other gross signs of congestive heart failure. Because of breathlessness and fatigue, he was just able to walk about. The heart was clearly enlarged, and he had auricular fibrillation (the heart rate several hours after entrance was 170, and the next morning, after digitalization, from 90 to 100), which had appeared in paroxysmal attacks lasting about twelve hours each over a period of two years. These attacks came more and more frequently, and two months before entrance, the auricular fibrillation became established and persisted until two months and three weeks later, five weeks after his final operation. Since then, the rhythm has been normal, and the rate about 70 (at ordinary office examination). It is now four months since his final operation. For the last two and one-half months, he has felt perfectly well and has started practice. He has an entirely negative physical examination (basal metabolism on entrance +72, now +7) except for slight edema of the feet with pain after walking; he has flat foot and varicosities of the legs. His heart shows doubtful slight enlargement. His mental condition is normal, and he is interested in things again. He does not look much older than his age.

Perhaps the worst risk of the series was Case 3.

CASE 3.—Mrs. S., aged 37, but appearing to be at least 60, had been operated on elsewhere for thyroidism twelve years previously, but without much improvement, apparently because an insufficient amount of the gland had been removed. She had had a disorderly heart beat for twelve years. The heart was huge; the liver enlarged, and she had edema of the legs and some ascites, though she weighed only 82 pounds (37 kg.). She was somewhat orthopneic. These symptoms were present in spite of little effort being made by the patient beyond lying in bed and being transported for the last three years. She had been an invalid, traveling from hospital to sanatorium and from one physician to another for twelve years. She did not appear neurotic. A few weeks before coming to us, she had been under the care of an excellent, modernly trained cardiologist, who emphatically said that she could not stand operation. After several weeks' preparation, she was operated on in two stages, with six weeks intervening. The operations were difficult because of scar tissue. It is too soon to judge the relief of her physical disability, but improvement in mental outlook, appearance, breathlessness, edema, heart rate and other physical signs was marked before she left the hospital, five weeks after her second hemithyroidectomy. She now makes more exertion than she has for several years, since she goes up and down stairs and walks about freely several hours each day.

CASE 4.—Mrs. P., aged 56, had more marked heart failure, and took longer to prepare for operation, but was perhaps a little more attractive operative risk because she had had no previous operation. Her weight was 62 pounds (28 kg.), her normal weight being 140 pounds (63.5 kg.). She had a huge heart, with auricular fibrillation. She showed orthopena, edema of the lungs, a very large liver (the edge was felt at the umbilicus), and when the patient was first seen, the liver was acutely tender. After many weeks of watching and treatment directed toward her heart condition, the orthopnea improved, the lungs were cleared of râles and the liver tenderness left, though gross engorgement remained. Her final operation was five months ago. She has gained 30 pounds (13.6 kg.), and is at home and up and about, without any

sign of heart failure. She had been in bed for seven months (and had chronic heart failure with acute exacerbations throughout this time) before reporting for operation.

In brief, the other cases differ in severity, so far as this can be measured, between the second and third cases given above. All the patients have been operated on by Dr. Lahey. The first of this group had the operative procedure completed more than two years ago; she had increasing disability for two years and was in bed six months before the operation. Since three months after the operation, she has led a normal life—she does all her housework, and is very active socially. The last of the group, Case 3, had operative procedures completed a few weeks ago. Of the whole group, one died (this case will be discussed later). The others, not previously discussed, except one patient who improved until last heard from and with whom we cannot now get in touch, so far as elapsed time permits proof, have lost their disability to a surprising extent. These persons lead lives that differ widely in extent of physical strain. One does all the housework for a large family and, in addition, earns money by doing laundry work; another lives without effort in a city hotel. They are relieved of signs of heart failure. They have gained weight and show indirect evidence of improvement by lowered basal metabolism readings and heart rate.

Only a few of these cases with established auricular fibrillation have returned to normal rhythm after relief of thyroidism. It is the commoner thyroidism case that has had auricular fibrillation for a short time, or in repeated transient attacks, that permanently returns to normal rhythm after relief of thyroidism.[1]

The improvement in mental condition and evident enjoyment of life is difficult to record, but is very noticeable to me as I follow the individual cases.

It is difficult not to appear overenthusiastic in recording this group of cases. But when one is familiar with the picture of cases in which there is chronic heart failure of the congestive type in rheumatic heart disease, degenerative sclerotic conditions, etc., the contrast in what can be done for these patients with chronic failure with acute exacerbations and thyroidism is delightful. There is no similar improvement from prolonged disability to prompt and, so far as can be told, lasting relief to be hoped for in other heart diseases, save in rare instances.

Many of these patients have been told by the highest type of medical consultant, known to us and known widely, that they could not be operated on, and others have been seen and treated by them and operative measures not suggested. This sort of case is considered too far gone for surgical aid.

If not operated on, it is scarcely to be judged that they could improve, since most of these persons have for years had an irregular course tending unmistakably downward. Most of them have had prolonged rest in bed; many have had roentgen-ray treatment by well trained men, without satisfactory improvement.

It is scarcely to be expected that in this class of cases the operative risk can be as low as that of the whole clinic. The low death rate recorded here is accepted by us in part as good fortune. But, remembering the four patients mentioned in the second paragraph of this article, who came to the clinic the last year with thyroidism and heart failure and died in a few hours or days, not operated on, there is no question that, even though the risk were much greater than it is, the chance of cure of such cases by operation would still be an attractive choice. I will describe one of these four cases as an illustration.

CASE 5.—A woman, aged 50, who is known to have had thyroidism for several years, journeyed from one physician to another, because she was not cooperative. Her course was rapidly downward. She had a prolonged attack of heart failure of the congestive type, from which she improved enough to go home against advice from a hospital in another city, a few weeks before reporting to us. She promptly failed again, and came to this clinic in an extreme condition. When first seen, she was deeply cyanosed, sitting upright in bed, the lungs full of râles, the sputum bloody, the liver large and tender, gross edema from her feet to her waist, the heart very large, with a rate around 200 and absolutely irregular. Morphin gave her a reasonably comfortable night. Digitalis was given in divided doses at six-hour intervals, to give an estimated full dose in eighteen hours. Eighteen hours after admission, her condition was unrelieved; oxygen administrations and venesection, during which the blood whistled out of the proximal end of the cut vein, caused partial relief, but death occurred six hours later, with the classical symptoms of heart failure persisting.

The other three cases were essentially similar.

There is no routine treatment for cases of this group. They are given rest, in all its details, and sedatives as indicated. They are thoroughly digitalized. (All but one of the patients had auricular fibrillation; this patient had no digitalis.) They are watched, and operated on when the signs of acute heart failure have cleared. None so far has been operated on while the liver was tender, or orthopnea marked, or with persistent râles in the dependent portions of the lungs. Many have still had, when operated on, large livers, slight orthopnea or edema of some extent in the legs. Breathlessness and tachycardia are, of course, a part of the thyroidism; if one waits for these to clear before operating, one may wait out the life of the patient. We consider it wise to wait for three weeks after the evidence of acute heart failure has cleared. Heart failure of the congestive type, particularly in the presence of auricular fibrillation, would seem to offer favorable opportunity for the formation of intra-auricular thrombi, and they are known to occur. There is evidence that it takes at least three weeks for such thrombi to become firmly attached to the heart wall. The single death among the cases in this group that were operated on occurred in a woman who entered the hospital with signs and history of heart failure. These cleared promptly, and she stood a preliminary operation well, after several weeks of rest and preparative treatment. She returned six weeks later, without signs of acute heart failure, but with a story that suggested some acute failure a few days before. She was operated on a few days after entrance, but died suddenly twelve hours later. Her condition remained entirely satisfactory until she died. No necropsy was obtainable, but it seems probable to me that an embolus from an intracardiac thrombus caused death.

In these seemingly hopeless cases, the patients have stood operation very well. It is the rule for the signs of heart failure not to be aggravated after operation. Relief of symptoms occurs, as a rule, promptly. Within a week after the final operation, beginning general improvement is usually quite evident.

## SUMMARY

A small group, within a large group of thyroidism cases, is found completely disabled by heart failure of the congestive type.

1. Hamilton, B. E.: Clinical Notes on Hearts in Hyperthyroidism, Boston M. & S. J. **186**: 216 (Feb. 16) 1922.

These patients as a class are oldish, have auricular fibrillation, and have severe degrees of thyroidism which has persisted for a long time in spite of attempts at palliative treatment.

As a rule, they have been considered by their medical advisers to be unfit for operative treatment.

Twenty-two such patients have been operated on in this clinic in the period extending from more than two years ago to five weeks ago. One patient died suddenly. The others are alive, and, up to the present time, show relief of disability in varying but satisfactory degrees.

19 Bay State Road.

## *Clinical Notes, Suggestions, and New Instruments*

### POLYCHROME METHYLENE BLUE USED TO HELP LOCATE MALIGNANCY IN TISSUES TO BE EXAMINED MICROSCOPICALLY *

BENJAMIN TAYLOR TERRY, M.D., NASHVILLE, TENN.

Polychrome methylene blue is successfully used at the Mayo Clinic,[1] Johns Hopkins University,[2] Vanderbilt University,[3] and other places to diagnose malignancy quickly under the microscope. When good sections through the malignant area are obtained, the diagnosis is usually easy. There remains the problem of how to find a small area of malignancy in a large mass of tissue. The observation that frozen sections of malignant and rapidly growing tissues often stain so intensely with polychrome methylene blue as to be striking even to the naked eye suggested that this stain might be applied directly to tissues to select areas of malignancy. My results show that malignancy can in this way often be picked out.

#### TECHNIC

A thin slice of tissue is cut and flooded for five seconds with at least ten times its volume of polychrome methylene blue No. 1.[3] At the end of this time the section is removed from the stain and rinsed in distilled water, the surface is illuminated with strong light, and the moist surface is examined carefully with the naked eye and also with a good high power magnifying glass. One should look for areas staining deep blue. Areas that are suspicious, owing either to an unusual amount or to unusual distribution of deep blue, are to be examined microscopically, preferably by the frozen section method. Fixed tissue can be examined similarly.

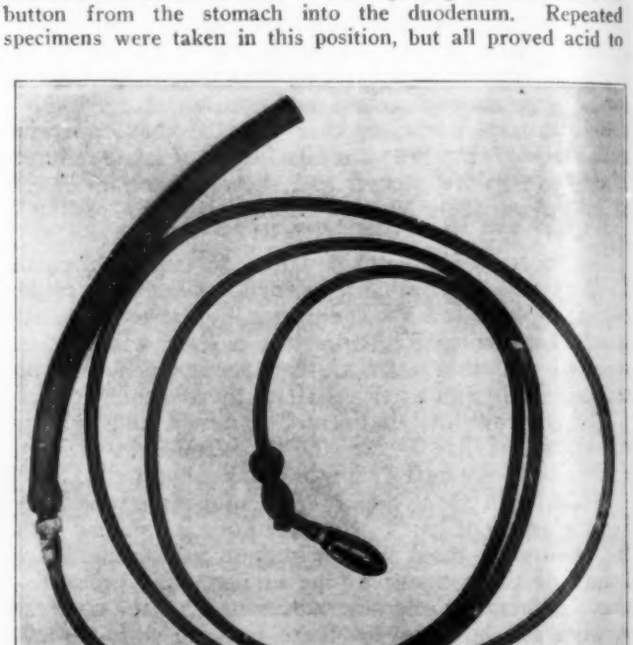
### KNOTTING OF THE DUODENAL TUBE IN SITU *

F. T. BILLINGS, M.D., PITTSBURGH

Mrs. M. B., admitted to the Western Pennsylvania Hospital, Feb. 23, 1923, and discharged, March 12, 1923, came to the hospital complaining of "gas on the stomach," pain over the right side of the abdomen, and a vaginal discharge. The family history was unimportant. For the last two years she had experienced flatulence, accompanied by belching, but no nausea. The attacks generally followed meals, and came in definite periods of pain and indigestion. She had lost 16 pounds (7 kg.) during the last six months. At the time of admission, she complained of considerable gaseous distention of the abdomen, especially pronounced after meals, but not necessarily dependent on them. During deep inspiration, the patient experienced a feeling of "goneness" of the stomach and intestine. There was also a sore, dull, aching pain in the upper right quadrant of the abdomen, accentuated at times to a sharp knifelike intensity radiating upward to the chest. She had had a vaginal discharge for the last six years, which was profuse, white and of thick consistency.

On the day of admission, the patient was given a complete physical examination with practically negative results. In the lower abdomen, in the medium line, there was the scar of a past pelvic operation, at which time (five years before) there had been performed a double salpingectomy, removal of one ovary, and an appendectomy. There was some tenderness over the upper abdomen. A tentative diagnosis was made of gastric or duodenal ulcer, gallbladder involvement or a secondary hyperchlorhydria.

The day after admission, the stomach contents were examined in this manner: A slice of bread and a cup of water were given, and the Rehfuss tube was inserted with very little difficulty. Eight specimens of the gastric contents were recovered, at fifteen-minute intervals. The patient was then placed on the right side, and the left knee and thigh were flexed, so that the thigh rested on the abdomen. This was done in order to facilitate the passage of the metallic button from the stomach into the duodenum. Repeated specimens were taken in this position, but all proved acid to litmus. It was decided to leave the tube in place for from twenty to thirty minutes, in the hope that the evident pylorospasm would eventually be overcome.



Knotted duodenal tube

At the end of twenty minutes, the resident physician was hurriedly summoned because the patient seemed to have difficulty in breathing. She was found to be pulling at the tube, and seemed to be in great discomfort. On the assumption that the tube had induced a cardiospasm by being pulled forcibly against the esophageal-gastric juncture, the resident physician ordered the patient to swallow a glass of water, hoping that this would induce a relaxation of the spasm. During the act of swallowing, the tube was pulled taut, and quite a little force was necessary in order to pull it past the constricted orifice. The tube was felt to pass irregularly, and in a jerky fashion up the esophagus. When the whole of the tube was finally recovered, it was found to be tied in a double knot at the distal portion, close to the metal tip. The knotting had no doubt taken place as a result of the excessive peristalsis with its underlying factor, hyperchlorhydria. The chemical examination of the stomach contents proved the presence of the latter.

Other laboratory reports revealed that the urine was negative, the spinal fluid negative, as to both Wassermann reaction and cell count, and the blood Wassermann reaction was

* From the Department of Pathology, Vanderbilt University Medical Department.

1. Wilson, L. B.: J. Lab. & Clin. Med. **1**: 40, 1915.
2. Bloodgood, J. C.: J. Radiol. **4**: 46 (Feb.) 1923.
3. Terry, B. T.: J. Lab. & Clin. Med. **8**: 157 (Dec.) 1922.

* From the Second Medical Service, Western Pennsylvania Hospital.

negative. Chemical examination of the blood was negative in every respect.

The barium roentgen-ray series of the gastro-intestinal tract revealed a great degree of ptosis of the stomach and a slight dilatation of the greater curvature. The small intestine and the colon were normal. The diagnosis was gastroptosis. The accompanying illustration shows the tube immediately after it was removed from the stomach. The patient was exremely neurotic, and remained so during her stay in the hospital.

626 Union Arcade Building.

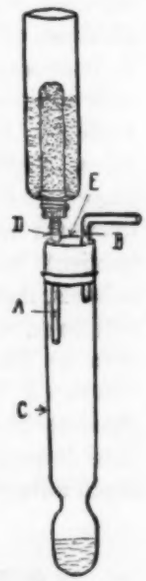
---

### SIMPLE APPARATUS FOR FRACTIONAL FILTRATION BY GRAVITY OR SUCTION *

LELAND W. PARR, S.B., CHICAGO

It is often desirable to obtain fractions in the filtration of a bacterial culture or other material. The apparatus described and illustrated here has been found very satisfactory for this sort of work, and has the advantage that it involves no costly material or unusual technic.

The Mandler or Berkefeld filter is assembled as usual, after thorough cleaning. Then a two-hole No. 4 rubber stopper (*E*) is taken, and the stem (*D*) of the assembled filter is pushed about half way through one of the holes from the top side. Into this hole, but from the bottom, a short piece of straight glass tubing (*A*) is inserted. A second piece of glass tubing (*B*), 3 or 4 inches long and bent at right angles, is inserted through the second hole of the stopper from the top side. The stopper, so equipped with filter and tubes, is then inserted into the mouth of a potato tube (*C*) of such size that there is a snug fit of the two. A pledget of cotton can then be placed in tube *B* and the apparatus sterilized appropriately. A basket of potato tubes of the same size as the one used should be plugged, baked and sterilized at the same time.




Apparatus used in fractional filtration, either by gravity or by suction.

When it is desired to use the apparatus, it is mounted on an iron stand by a clamp which grasps the stopper above the mouth of the potato tube and below the filter mantle. The apparatus is held up clear of the table, and it is thus possible to remove the potato tube whenever one wishes, ordinary asepsis being observed, and to replace it with a new one, the cotton plug of the new one becoming the cotton plug of the old. It is thus possible to obtain fractions of the filtrate or to filter directly into the culture medium. In gravity filtration, the displaced air escapes by the way of tube *B*. In suction filtration, the negative pressure is attached to tube *B*. The justification for tube *A* is that in suction filtration it is needed to keep the liquid, as it filters in, from being sucked across to tube *B*, and out of the system.

---

### A CASE OF PAPYRACEOUS FETUS

J. L. MILLS, M.D., WINNEBAGO, MINN.

A woman, aged 38, housewife, well developed and well nourished, now in her fourth pregnancy, gave a negative family history, with no record of multiple pregnancies on either side of the family. The youngest child was 7 years old.

The last menstruation was on July 15. For the first three months, the patient was nauseated in the morning and vomited occasionally. Other than that, she felt perfectly well during the entire course of her pregnancy. At no time did she have any bloody vaginal discharge or excessive leukorrhea. Quickening occurred, November 23, and from then on, fetal movement was felt every day.

Examination, February 5, showed the fundus half way between the umbilicus and the ensiform cartilage. The position was right occipito-anterior. The fetal heart rate was 170. The pelvic measurements were: interspinous, 27 cm.; intercristal, 29 cm.; intertrochanteric, 36 cm., and external conjugate, 22 cm. Blood pressure was: systolic, 132; diastolic, 80. The pulse was 84, and urinalysis was negative.

Labor began at 1 a. m., April 20. Dilatation was complete at 10 a. m., and the baby was born at 11 a. m. The baby was a normal girl, weighing 8¼ pounds (3.75 kg.). The placenta was delivered spontaneously thirty minutes later. Incorporated in the last part of the membranes to be delivered was a saucer-shaped mass that proved to be a papyraceous fetus. It was 16 cm. long, 6 cm. wide at its broadest part, and 1.5 cm. at the point of maximum thickness. The integument was firm and grayish brown. The soft tissues had been practically all absorbed, and I was unable to distinguish any of the viscera. The skeletal structures were well preserved. From the size of the fetus, I estimated its age at about 4 months.

The cord was hard and fibrous, and attached to a small fibrotic placenta about 6 cm. in diameter. It was embedded in the membranes of the normal fetus. The entire placenta was so fibrous throughout that I was unable to find any spot that I could call an infarct. I was also unable to find any cause for the separation of this placenta.

---

## *New and Nonofficial Remedies*

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

---

**ARSPHENAMINE** (See New and Nonofficial Remedies, 1923, p. 46).

**Arsphenamine-Mallinckrodt.**—A brand of arsphenamine-N. N. R.

Manufactured by the Mallinckrodt Chemical Works, St. Louis.
*Arsphenamine-Mallinckrodt Ampoules, 0.1 Gm.*
*Arsphenamine-Mallinckrodt Ampoules, 0.2 Gm.*
*Arsphenamine-Mallinckrodt Ampoules, 0.3 Gm.*
*Arsphenamine-Mallinckrodt Ampoules, 0.4 Gm.*
*Arsphenamine-Mallinckrodt Ampoules, 0.5 Gm.*
*Arsphenamine-Mallinckrodt Ampoules, 0.6 Gm.*
*Arsphenamine-Mallinckrodt Ampoules, 1.0 Gm.*

**BARBITAL** (See New and Nonofficial Remedies, 1923, p. 62).

**Barbital-M. C. W.**—A brand of barbital-N. N. R.

Mallinckrodt Chemical Works, St. Louis, distributor. No U. S. patent or trademark.

**CINCHOPHEN** (See New and Nonofficial Remedies, 1923, p. 90).

**Cinchophen-M. C. W.**—A brand of cinchophen-N. N. R.

Mallinckrodt Chemical Works, St. Louis, distributor.

**MERCURIC CYANIDE** (See New and Nonofficial Remedies, 1923, p. 194).

**Mercuric Cyanide-M. C. W.**—A brand of mercuric cyanide-N. N. R.

Manufactured by the Mallinckrodt Chemical Works, St. Louis. No U. S. patent or trademark.

---

**Universal Gas Mask.**—A gas mask that will give protection against all poison gases, including carbon monoxid, has been perfected by the Department of the Interior as the result of experimental work performed by the Bureau of Mines. The new mask, which is described as an "all purpose cannister," is particularly valuable for firemen and men engaged in fumigating ships or buildings. With these masks, workers in many metallurgical and chemical plants may encounter a variety of gases. The masks are smaller and lighter than others that have previously been developed.

---

* From the Department of Hygiene and Bacteriology, University of Chicago.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET - - - CHICAGO, ILL.

Cable Address - - - - "Medic, Chicago"

Subscription price - - - - - - Six dollars per annum in advance

*Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent. Such notice should mention all journals received from this office. Important information regarding contributions will be found on second advertising page following reading matter.*

SATURDAY, JUNE 16, 1923

## WHAT CAN VITAMINS DO?

Students of the physiology of nutrition have been assiduously engaged during much of the last decade in securing facts with respect to the rôle of the vitamins. Varied manifestations of so-called avitaminosis have been recognized, and in several types the probable interrelations of cause and effect have been discovered. Probably scurvy, beriberi and rickets stand out as the most conspicuous instances in which the effect of the lack of certain food factors is almost universally admitted. It is a natural further stage in the evolution of knowledge to find interest in the question of how the protective vitamins act, now that the probability of their existence has been put on a more secure experimental basis. Do they supply an essential component in the active cells of the body—a building stone in the complex structure of an organism ever subject to change and therefore to reconstruction? Are they analogous to those organic catalysts that are recognized under the name of enzymes, and do they, like them, merely facilitate the natural reactions of the organism? Are they physiologic stimulants or inhibitory substances comparable with natural hormones or artificial drugs? These are some of the inquiries that command the attention of the thoughtful student.

On the answers must eventually depend some of the therapeutic possibilities that vitamins may or may not unfold. Park [1] of Yale University has not hesitated to say that cod liver oil—a veritable treasure of certain vitamin potencies—may act as a regulator of the mineral metabolism, at least so far as the calcium and inorganic phosphorus are concerned; and one may infer that a function of cod liver oil and also of radiant energy is to maintain the normal salt equilibrium of the body in the presence of salt combinations of different complexities which are continually being absorbed from the food. Without supplying either phosphorus or calcium, the potent factor in cod liver oil causes the organism to respond as if a requisite or almost requisite quantity of phosphorus or calcium had been supplied. Something is furnished which, in the words of Park, makes the metabolism more effective or causes the organism to operate with increased economy. Histologic studies of the bones and chemical examinations of the blood indicate that cod liver oil and light, instead of bringing new processes into operation, rather permit the organism to have full use of processes which were natural to it all the time, but were not effective.

With respect to vitamin B, or the "antineuritic factor," one sometimes reads nowadays that it "stimulates metabolism"—assuredly a rather vague definition of function. Is the oxidative capacity of the body promoted or protected by such a food factor? Or is there derangement of some other phase of energy metabolism? Mattill [2] of the University of Rochester, N. Y., has put the question to a test experimentally with esentially negative results. From his data on the respiratory quotients of rats on rations with and without vitamin B, it appears that this substance is not related specifically to the metabolism of carbohydrate, since after the feeding of sucrose or glucose the quotients rose in both cases, slightly less rapidly in the vitamin-deprived group, owing probably to delayed absorption. Basal quotients were alike in the two groups; nonfasting quotients were slightly lower in the vitamin-deprived animals, thus reflecting their semifasting condition. It will be wise, therefore, for the present to avoid reference to the "stimulating" or "energizing" effects of vitamin B (which yeast claims so prominently as a characteristic component), so long as no better evidence than is now available can be offered in support of a much advertised claim.

1. Park, E. A.: The Etiology of Rickets, Physiol. Rev. **3**: 106 (Jan.) 1923.

2. Mattill, H. A.: The Utilization of Carbohydrate by Rats Deprived of Vitamine B, J. Biol. Chem. **55**: 717 (April) 1923.

## PERIARTERIAL SYMPATHECTOMY

The results recently achieved with the operation of periarterial sympathectomy—the cutting of the nerves about the arteries—have aroused the hope of successfully attacking a group of extremely painful and disabling disorders (causalgia, trophic ulcers, vascular spasms and vasomotor neuroses) which, heretofore, have proved extremely intractable to treatment. The technic of the operation has recently been described by Halstead and Christopher [3] in THE JOURNAL. Jaboulay,[4] basing his action on the discovery by Claude Bernard that section of the sciatic nerve caused hyperemia of the foot, performed arterial sympathectomy in 1899, with excellent results in the treatment of trophic ulcers. The operation was repeated in several cases with varying success. Leriche, in 1914, with the object of more completely destroying the nerve fibers, modified Jaboulay's operation of cutting the nerves as they enter

3. Halstead, A. E., and Christopher, Frederick: Periarterial Sympathectomy, J. A. M. A. **80**: 173 (Jan. 20) 1923.

4. Jaboulay: Le traitement de quelques troubles trophiques du pied et de la jambe par la dénudation de l'artère fémorale et la destruction des nerfs vasculaires, Lyon méd., Aug. 6, 1899.

the sheath, and stripped off the adventitial coat of the artery, thus removing the terminal twigs of the postganglionic sympathetic nerves.

Leriche observed, at the time of the operation, extreme contraction of the artery, which he at first thought to be a pathologic condition of the vessel, followed a few hours later by hyperemia, with a rise in temperature of 1 or 2 degrees C., and in arterial pressure of as much as 40 mm., in the parts of the limb distad to the site of operation. This secondary hyperemia, however, is temporary and disappears at the latest in thirty days. These observations have been confirmed by some [5] and denied by other surgeons,[6] and most efforts to produce them in lower animals, especially in dogs,[7] have proved futile. Leriche [8] asserts that he has observed them in rabbits and once in a dog. He points out that the small size of the arteries renders the operation difficult, and also suggests that in hair covered animals the need for arterial regulation is not so great as in man.

The results are difficult to explain, for, as Callander has emphasized, the sympathetic fibers enter the arterial sheath from the spinal nerves throughout its course; the operation destroys the constrictor fibers only in the segment of artery that is actually denuded. Whatever the explanation, there is no question that the operation is followed in many cases by marked improvement in local nutrition—sores heal, pains disappear, partially atrophied muscles improve, and thickened skin becomes more pliable. Yet these results are not uniform, even in cases of apparently identical nature, and the measure must at present be regarded as largely empiric; much study is necessary before it will be possible to state the exact indications for its performance.

The failure to secure relief from other methods of treatment, and the painful and disabling character of the afflictions in question, however, seem to justify the experimental application of periarterial sympathectomy in properly selected cases. Skilfully performed, the operation seems to be devoid of serious danger, and there can be no question that it sometimes affords marked relief. Due consideration must be given to the warning of Leriche against attempts to decorticate arteries that are grossly diseased, especially in cases of senile gangrene. It is also important that every case be studied with the greatest detail in order to assist in furnishing data from which it may be possible to define the indications for and against the operation, and to explain the discordant results in apparently similar conditions.

5. Halstead and Christopher (Footnote 1). Brüning, Fritz: Der Angiospasmus in der Pathogenese der vasomotorisch-trophischen Neurosen, Deutsch. med. Wchnschr. **48**: 1572 (Nov. 24) 1922.

6. Callander, C. L.: Arterial Decortication, Ann. Surg. **77**: 15 (Jan.) 1923. Carter, H. S.: On Causalgia and Allied Conditions Due to Lesions of Peripheral Nerves, J. Neurol. and Psychopath. **3**: 1 (May) 1922.

7. Lehmann, E. P.: Periarterial Sympathectomy, Ann. Surg. **77**: 30 (Jan.) 1923.

8. Leriche, René: Sur l'étude expérimentale, la technique et quelques indications nouvelles de la sympathectomie périartérielle, Presse méd. **30**: 1107 (Dec. 23) 1923.

## "THE CHRONIC ABDOMEN"

Of all of the medical slang that has insulted the ear of the carefully speaking physician, no term has been seized on by the surgeon with such avidity as has the "acute abdomen." It is this term, in part, that prompts Dr. Robert Hutchison of the London Hospital to write on the "chronic abdomen," and he says of it that if the "acute abdomen" is, as we are told, a catastrophe, the "chronic abdomen" is certainly a conundrum. The patient suffering with this disease is usually a woman, generally a spinster or, if married, childless and belonging to what is commonly termed, rather ironically, "the comfortable class." The degree to which her condition seems to trouble her life permits the author, indeed, to term her an "abdominal woman." She complains of vague aches and pains of various sorts and in various places, but especially in the right iliac fossa. The reader will note that the patient is described as "she," for such cases are rather rare in men, and it has been Hutchison's experience that when the condition does occur in a man he is either a Jewish neurotic or a physician. These patients complain of "a raw feeling inside," or of a "dragging" pain. They are usually constipated, and have feelings of general weakness and torpor; headaches and insomnia occur, and frequent colds. In order to demonstrate the process by which the condition is developed, Dr. Hutchison cites several cases in his experience, and the reader will readily concur with him that "the road to chronic abdominalism is paved with operations." The first operation is usually the removal of the appendix, followed by slight improvement; and it is characteristic of such patients that almost any new treatment, especially a surgical operation, produces benefit for a time. When the symptoms return, they are credited to "adhesions," and another operation is performed to remedy this condition. "Warming to his work," says Hutchison, "the surgeon undertakes bolder and yet bolder proceedings: a complete hysterectomy is probably carried out or some short-circuiting device, or the colon is fixed, or even partially removed; but still the patient is not cured of the pains, whilst the state of the nervous system has steadily worsened." This consideration leads Dr. Hutchison to the interesting observation that Sir Clifford Allbutt, in his Goulstonian lecture, delivered in 1884, described the "abdominal woman" of that day in terms which might well be applied to the type that prevails today. The difference was merely that in 1884 the gynecologist was the operator and the uterus the organ incriminated, whereas today it is the surgeon who must bear the responsibility, and the appendix, teeth or tonsils that are the criminals accused. Said Sir Clifford Allbutt:

> She is entangled in the net of the gynecologist, who finds her uterus, like her nose, is a little on one side, or again, like that organ, is running a little, or it is as flabby as her biceps, so that the unhappy viscus is impaled upon a stem, or perched upon a prop, or is painted with carbolic acid every week in the year except during the long vacation when the gynecol-

ogist is grouse-shooting or salmon-catching, or leading the fashion in the Upper Engadine. Her mind, thus fastened to a more or less nasty mystery, becomes newly apprehensive and physically introspective, and the morbid chains are riveted more strongly than ever. Arraign the uterus and you fix in the woman the arrow of hypochondria, it may be for life.

With a vitriolic pen Dr. Hutchison attacks the treatment accorded to these "abdominal patients." It would appear that our English colleagues have also met the problem of the group diagnostic clinic, and it is amusing to read this picture of a typical procedure:

> The patient has been thoroughly "investigated"—possibly at a "team-work" clinic; she has certainly been provided with an x-ray picture-book of her entire alimentary canal; her teeth have been extracted and her tonsils excised; her motions have been analyzed by a biochemist and her mind by a psycho-analyst; she has had several rest cures; she has been given prolonged courses of vaccines, of intramuscular tonic injections, of intestinal antiseptics and of endocrines; she has been fed on sour milk or minced beef or raw vegetables; she has experienced various forms of massage, has been subjected to the latest kinds of electrical current, and has had her colon repeatedly washed out at Plombières or Harrogate.

Strangely, the sympathy of Dr. Hutchison is not so much for the patient or even for her family, but particularly for the physician who must give such patients not only the ordinary consideration granted to those who wish advice but even more than the usual attention. Such patients demand sympathy and understanding, and yet the demand is so constant, so incessant, that Dr. Hutchison calls the "abdominal woman" a "veritable vampire, sucking the vitality of all who come near her. . . . Half an hour with her," he says, "reduces her doctor to the consistence of a piece of chewed string, and is more exhausting to him than all of the rest of his daily visitors put together; for she has emotions, discovers fresh symptoms, will not admit any improvement in her condition, and has an objection to everything that is proposed."

What is to be the physician's course in the care of such patients? No doubt, continued study will reveal that the chief source of attack must be from the psychologic side and from the standpoint of the relation of the vegetative nervous system to the emotions. There is great hope when the patients are seen early, for at that period it is possible to halt the gradual sliding into a slough of despond, perhaps to build up the patient's morale as well as her physical system, and to call a halt on the innumerable operations which may tend to augment complaints rather than to inhibit them. From the mental side, all sorts of remedies have been attempted. The war aided a few by giving them a dominating interest apart from themselves. Feminism, with the necessity for suffrage campaigns, provided another interest. "Marriage, and the advent of a child, even an adopted one, are often potent remedies," "and the fancy religions, Christian science, Theosophy, Spiritualism, etc., may be ways of escape." On the whole, Dr. Hutchison has a feeling of despair as regards the treatment of more advanced cases of this condition, and he is inclined to think that the less one has to do with them the better, both for one's peace of mind and one's professional reputation. "It is a bleak prospect," he concludes.

The patients described by Dr. Hutchison are a prolific source of income and nourishment to the cultists, who derive their chief support from chronic invalidism. There is a vast body of patients who are not seriously ill, who are hopeful and who seem for a time to improve under any new treatment. They pass from physician to physician, from cultist to cultist, from chiropractor to osteopath, to Abramsite, to Eddyite; and they return ever, in the words of Omar Khayyam, by the same door wherein they went. The service which scientific medicine may render them is education in health and a knowledge of their disease, that they may not be so readily the subjects of exploitation by unprincipled cultists.

## Current Comment

### COD LIVER OIL IN TUBERCULOSIS

There was a time, in the not far distant past, when forced feeding was regarded as an essential to good results in the therapy of tuberculosis. Krause[1] has sanely remarked, however, that the days of pride in fat, flabby, overfed patients have passed and have been replaced by a policy of attaining a gradual improvement in nutrition to a normal weight and a firm, healthy body tone. Nevertheless, recent studies in nutrition have placed in a new light some of the food materials that have long had an empiric vogue for specific efficiency in certain disorders. The reputed potency of cod liver oil in chronic wasting diseases is a case in point. In rickets its unique remedial potency has been assigned of late to some chemical factor, perhaps a typical vitamin not represented by the fats proper which constitute the bulk of the product. Does it have a comparatively beneficial effect on the progress of tuberculosis? The question has been approached experimentally in the Hygienic Laboratory of the U. S. Public Health Service at Washington by Smith.[2] Although cod liver oil appears to have a definite, though slight, effect on the nontuberculous guinea-pig, especially when the latter is maintained on a diet deficient in vitamin A, the results of the experiments are negative so far as concerns the action of cod liver oil on tuberculosis of the guinea-pig. This substance has not shown itself definitely beneficial, as regards weight curve, length of life or extent of the disease process, in experimentally infected guinea-pigs kept on a normal or deficient diet. There has been no evidence of deposition of calcium in tuberculosis of the guinea-pig when this element was administered along with the cod liver oil. These investigations are, perhaps, far from sufficient to lead to a complete negation of beneficial

1. Krause, A.: Tuberculosis, in Nelson's Loose Leaf Living Medicine **1**: 380.

2. Smith, M. I.: Studies on Nutrition in Experimental Tuberculosis, I, The Effect of the Fat-Soluble A Vitamine on Tuberculosis of the Guinea Pig, with Especial Reference to the Value of Cod Liver Oil in Experimental Tuberculosis, Am. Rev. Tuberc. **7**: 33 (March) 1923.

therapeutic possibilities from the agents under consideration; yet they warn against unwarranted optimism, and justify critical investigation whenever calcium or cod liver oil is lauded as a specific in tuberculosis.

## PASTEUR AND THE CHILDREN

In view of the intimate relationship between the discoveries of Louis Pasteur and the prevention of infant disease and the protection of child health, it is interesting to have attention called, as Dr. John Foote has recently done in "Mother and Child," to the special philosophy of Pasteur as related to children, and to the manner in which France has recognized this aspect of the great investigator's life. France has perpetuated this relationship in virtually all of the monuments raised to its greatest citizen. At Dôle, where Pasteur spent his boyhood, a mother and two sick children symbolize grateful humanity. At Arbois nearby, where Pasteur passed his boyhood, is a bronze statue looking up the street on which Pasteur walked on his way to school. At Lille, Pasteur stands on a pedestal, holding a flask, while below a peasant woman holds up to him a child in token of her gratitude. And before the Pasteur Institute stands the well known figure of the courageous shepherd boy holding off a mad dog. In the life of Pasteur, as told by Vallery-Radot, are the beautiful letters which he wrote to his children, emphasizing his humane regard for child life. Dr. Foote wisely suggests that the story of Pasteur and his work be told to every child, for in this manner may we hope for a future generation firm in its support of true science and ready to assist in the prevention of disease.

## THE GOVERNMENT WOULD BUY BRAINS

At various times THE JOURNAL has called attention to the lack of judgment used in the United States Patent Office in the issuance of patents of a medical or quasimedical character. The patent that was issued for the special tapeworm trap, that which was granted for "Perkins' Metallic Tractors," the one given to Quack Sanche for his fraudulent "Oxydonor," the one, called attention to a few months ago, on a preposterous combination as an alleged cure for consumption—these and many other cases could be cited showing the lack of brains in the Patent Office. One of the reasons for this lack becomes apparent. Within the last few days the United States Cicil Service Commission has sent out a notice advising the public that on June 20 there will be held an open competitive examination for assistant examiner, Patent Office. The applicants for this position will be examined on the following subjects: physics, mechanical drawing, technics, mathematics and language, with an optional subject to be chosen from the list of chemical engineering, civil engineering, electrical engineering, electrochemistry, general chemistry and mechanical engineering. The applicant must know enough mathematics to be able to answer questions in algebra, plane and solid geometry, plane trigonometry, analytics and differential calculus. He must know enough about mechanical drawing so that when given photolithographic copies of drawings of pieces of machinery he can describe the views, the construction and the operation of the machine represented in such technical terms as would be used by a skilled draftsman in preparing an application for a patent. Further, he must have a knowledge of the grammar and idiomatic construction of both French and German. In technics he must show familiarity with the applied sciences in the field of mechanics, mechanic arts, industrial arts and processes and applied chemistry, and should have "a broad, general knowledge of these subjects." If he passes the examinations in these various subjects he will get the job of assistant examiner at the Patent Office, and be paid the magnificent salary of $1,500 a year (less than $29 a week), with a bonus of about $4.50 a week additional if his services are satisfactory. Is it any wonder that the Patent Office fails to attract the brains of the nation? Some things, however, it seems, the examiners in the Patent Office do not have to know. There is nothing to indicate that even an elementary knowledge of the medical or biologic sciences is necessary—which may explain the weird conception that the Patent Office exhibits of what constitutes "new and useful" inventions in the medical sciences.

## THE MILKMAN CARRIER

Within the last year THE JOURNAL has published reports of two epidemics due to milkmen who were carriers. Fifty-two persons acquired diphtheria in Austin, Texas,[1] from milk sold by a dairy, one of whose employees had a chronic diphtheric ulcer of the nose. None of these died, because antitoxin was promptly administered in effective doses. In Portland, Ore., 487 persons recently became ill with septic sore throat due to milk from a dairy in which an employee carried hemolytic streptococci in his throat. Twenty-two of these patients died, because there is no effective preventive measure for this type of infection.[2] These epidemics were not the first of the kind to be reported; they probably will not be the last. It seems, however, that sufficient evidence in the way of sickness and death has accrued to show the importance of the milkman and to indicate that he of all persons on whom the public depends for food should be the cleanest and the healthiest. A simple method of control would be to require him to undergo a physical examination every two or three weeks, or at least as often as once a month. Legislation to this end would be unnecessary if those who supply us with milk realized their responsibility in the matter and adopted this or some such method of eliminating carriers.

1. Graham, Malcolm; and Golaz, E. H.: Milk-Borne Diphtheria, J. A. M. A. **79**: 1300 (Oct. 14) 1922.
2. Benson, R. L., and Sears, H. J.: A Milk-Borne Epidemic of Septic Sore Throat in Portland, Oregon, J. A. M. A. **80**: 1608 (June 2) 1923.

**Control of Venereal Diseases.**—The diagnosis and treatment of syphilis and gonorrhea is a medical problem, but the control of the spread of these diseases is a public health problem demanding the cooperation of health officers, nurses, social workers, and all other persons and agencies interested in the health of the public, as well as the physicians. In order to cooperate intelligently with the medical profession, the lay social worker must understand the principles of diagnosis and treatment of syphilis and gonorrhea.—A. J. Casselman, *Public Health Rep.* **36**:851 (April 22) 1921.

# Association News

## THE SAN FRANCISCO SESSION

### Program on Cancer

A public meeting will be held in Polk Hall, Civic Auditorium, San Francisco, on Sunday evening, June 24, at which the subject of cancer will be discussed. Dr. T. C. Edwards, president of the Medical Society of the State of California, will preside over this meeting. Dr. Ray Lyman Wilbur, President-Elect of the American Medical Association, Dr. T. W. Huntington and Dr. J. E. Rush will be the speakers of the occasion.

### Handbooks Mailed to Delegates

The Handbook of the House of Delegates, containing the reports of officers and councils of the American Medical Association, was mailed on June 8 to all delegates whose names and addresses are known. It is hoped that before the meeting in San Francisco all delegates will study carefully the reports printed in the Handbook.

# Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

## ALABAMA

**Milk Grading Ordinance Popular.**—The state health department recently sent out 4,000 questionnaires explaining the proposed milk grading ordinance for Montgomery and requesting a post card vote. Of 1,200 answers received 99 per cent. favored the ordinance. Montgomery dairymen have organized the Montgomery County Milk Grading Association to cooperate with the state and city health departments in their effort to reduce infant mortality.

## COLORADO

**Personal.**—Dr. Aller G. Ellis, Colorado Springs, will leave August 1, for Bangkok, Siam, to spend five years as visiting professor of pathology in the medical department of Chulalongkorn University, under the auspices of the Rockefeller Foundation which is aiding in the reorganization of the school.——Dr. George William Carter, Boulder, celebrated his ninety-sixth birthday, April 18. Dr. Carter is a graduate of the University of Michigan Medical School, Ann Arbor, 1853.——Dr. Florence R. Sabin, professor of histology, Johns Hopkins Medical School, Baltimore, gave an illustrated lecture before the Medical Society of the City and County of Denver, June 14, on "Some Results of the Newer Methods of Studying the Living Blood."

**Colorado Congress of Ophthalmology and Otolaryngology.**—The congress will be held in Denver, July 30-31. An intensive graduate course in ophthalmology and otolaryngology will be given for two weeks prior to the congress, the instructors to be from different parts of the United States. Drs. Edgar S. Thomson, New York; Harry W. Woodruff, Joliet, Ill.; Wolff Freudenthal, New York; Harold M. Hays, New York; Warren B. Davis, Philadelphia; Isaac H. Jones, Los Angeles; Henry J. Prentiss, Iowa City; Lee Cohen, Baltimore, and Harry S. Gradle, Chicago, are scheduled to deliver addresses. Registration for the course will be limited; those interested should apply to Dr. Edward Jackson, Imperial Building, Denver.

## CONNECTICUT

**Illegal Practitioners Fined.**—The medical examining board reports that Sante Capacelatro and Ettore Capacelatro of New Haven were recently fined $200 for practicing medicine without a license. Both men are said to have been unsuccessful in repeated attempts to pass the examinations for licensure in Connecticut, and it is thought that they may eventually try the examinations of some other state board.

## DELAWARE

**Wilmington's Municipal Laboratory.**—A city laboratory was opened, June 1, which will be available to the physicians of Wilmington for all kinds of bacteriologic work. In connection with the laboratory there will be a clinic for the examination and treatment of suspected cases of venereal disease in charge of Dr. John B. Rutherford. This clinic and laboratory will also take care of the juvenile court work.

## DISTRICT OF COLUMBIA

**Fifty Years of Service.**—Commemoration exercises in honor of the fifty years of service of Dr. Daniel Smith Lamb in Howard University School of Medicine, Washington, were held in the Rankin Memorial Chapel, June 7-8. The honorary degree of Doctor of Science was conferred on Dr. Lamb, who is professor of anatomy at the university. Drs. Kober, Williston, Lewis, Terry and Morton addressed the assemblage.

## FLORIDA

**Memorial Tablet to Physicians.**—The Marion County Medical Society formally dedicated a tablet at the Marion County Hospital, Ocala, May 25, erected in memory of five members of the society, who had died: Drs. S. Potts Eagleton, W. H. Powers, John M. Thompson, William V. Newson and Erastus Van Hood. The president of the county medical society, Dr. L. H. von Engelken, presented the tablet to the hospital.

**Sheppard-Towner Bill Rejected.**—The senate, May 25, killed Senator Butler's bill which would have brought Florida within the provisions of the Sheppard-Towner Law. The state department of health several months ago took up the maternity and child welfare work under an initial appropriation made available by the congressional act, to be used until such time as the various state legislatures could either accept or reject the provisions of the Sheppard-Towner Law.

## GEORGIA

**Fund for Outdoor Clinic.**—An initial contribution of $21,000 has been made by Jacob Alsas of Atlanta, to the Grady Hospital, for an outdoor clinic. The institution, which will be erected at a cost of $50,000, will adjoin the present structure.

## IDAHO

**Hospital Discontinued.**—The Gooding Deaconess Hospital, affiliated with the Methodist Church, at Gooding, has been discontinued.

## ILLINOIS

### Chicago

**League for the Hard of Hearing.**—The fourth annual meeting and banquet of the Chicago League for the Hard of Hearing will be held at the Congress Hotel, June 18, under the presidency of Mrs. A. L. Drum. Dr. James Kerr Love, Glasgow, will be the principal speaker. He will discuss "The Difference Between the Hard of Hearing and the Deaf Child." Dr. Max A. Goldstein, St. Louis, and Dr. Joseph C. Beck, Chicago, will also be among the speakers. This organization is one of the twenty-seven branches of the American Federation of Organizations for the Hard of Hearing, Washington, D. C.

## INDIANA

**Heart Disease Clinic Established.**—The board of public health has established an outpatient clinic in Indianapolis, for the treatment of persons having heart disease who are unable to engage a physician. The clinic will be held every Monday morning. Drs. Charles J. McIntyre, Robert M. Moore, Edgar F. Kiser and James A. Wynn have been selected as examiners by the health board. Dr. Herman G. Morgan, city health commissioner, in announcing the establishment of the clinic pointed out that there were 720 deaths from heart disease in Indianapolis in 1922, 330 from cancer, and 292 from tuberculosis.

**Hospital News.**—Dr. Simon P. Scherer bought the New Highland Mineral Springs Sanatorium at Martinsville, May 26. A clinical laboratory and a diet kitchen will be added at once. Dr. Scherer was formerly professor of gastrointestinal diseases in the Central College of Physicians and Surgeons and the Indiana University School of Medicine, Indianapolis, and is associate editor of the *Indianapolis Medical Journal*.——The three new buildings of the Sunnyside Sanatorium, near Oaklandon, were dedicated, May 13. The institution, of which Dr. Harold S. Hatch is superintendent, has a total capacity of 200.

## KANSAS

**State Board of Health Involved in Political Dispute.**—Following the resignation, on request of Governor Davis, of Dr. S. J. Crumbine, secretary of the Kansas State Board of Health, the newly appointed board, meeting in Topeka, June 7, elected Dr. W. G. Patton, Fort Scott, president; Dr. J. A. Connor, Waverly, vice president, and Dr. L. Matassarin, Wichita, secretary, for the ensuing year. The former Republican board also met and elected Dr. N. O. Neiburg, Wichita, secretary, to succeed Dr. Crumbine. It contends that the governor cannot dismiss a board except for cause. According to newspaper reports, the board of health offices have been closed by order of the state executive council and will remain closed until a court decision is rendered as to who constitute the board.

## MARYLAND

**Tuberculosis Clinic for Children.**—The Baltimore City Health Department, in addition to the five tuberculosis dispensaries already established, has opened one entirely devoted to the care of children up to the age of 15. This clinic is located in West Baltimore and is in charge of a physician especially interested in children's diseases. The clinic is open on Tuesday and Friday of each week.

**Additions to Orthopedic Clinic.**—The Maryland University has recently opened special clinics which will be held on Tuesdays from 12 to 2 p. m. for arthritis, and on Saturdays from 12 to 2 p. m. for scoliosis and posture, in connection with the orthopedic clinic of the department of surgery. The staff consists of Drs. Robert Tunstall Taylor, Compton Riely, John Albert Key, William H. Daniels and Howard L. Wheeler.

**Personal.**—Dr. William Walter Cort, associate professor of helminthology in the School of Hygiene and Public Health of the Johns Hopkins University, has sailed from San Francisco for Peking, where he will serve as exchange professor in parasitology in the Peking Union Medical College during the next academic year. Dr. N. R. Stoll, graduate student in the School of Hygiene and a research fellow under appointment by the Rockefeller Foundation, has accompanied Dr. Cort.——Dr. Chester P. Woodward has introduced an ordinance in the Baltimore City Council authorizing the West Baltimore Medical Association to establish a general hospital at the old Hebrew Orphan Asylum. The institution will be known as the West Baltimore General Hospital. A drive for $200,000 to equip the building will be held in September. The Elks have already pledged $50,000 to establish a ward for the order.——Dr. Adolf Meyer, psychiatrist-in-chief, of the Johns Hopkins Hospital, has gone to Europe to visit his old home in Zurich, Switzerland, and to inspect psychiatric clinics in England, France and other European countries.——Dr. Thomas P. Sprunt and Dr. Frank S. Lynn have been appointed by Col. Claude B. Sweezey, warden of the state penal institutions, to be medical consultants for the Maryland Penitentiary and the Maryland House of Correction. The two physicians will visit each institution weekly.

## MASSACHUSETTS

**Violations of the Harrison Narcotic Law.**—According to information recently received two practicing physicians of Boston, Dr. Ensang W. Chang, a Chinese, and Dr. Benjamin E. Robinson, a negro, were brought before the U. S. District Court on a charge of violating the Harrison Narcotic Law. A plea of nolo was accepted. Dr. Chang paid $200 in lieu of costs and Dr. Robinson's case was continued.

**Personal.**—Dr. Mark Hopkins Ward, Boston, has been appointed supervisor of the American Board of Foreign Missions, with headquarters in Boston. His work will be to conserve the health of the board's missionaries, at home and abroad. Dr. Ward served with the American Red Cross at Constantinople until the United States entered the war, when he became a captain in the Medical Corps of the U. S. Army.

## MICHIGAN

**Chiropractors Lose Damage Suit.**—According to reports, Joseph Synowski, infant plaintiff in the $50,000 damage suit against James and Margaret Connell, chiropractors of Jackson, for alleged malpractice, May 25, was awarded judgment for $7,000 in the circuit court. The suit was the outgrowth of fifty chiropractic treatments given the child about a year ago.

**Annual Clinic Week at Detroit.**—The annual clinic week of the Detroit College of Medicine and Surgery was held at Detroit hospitals, June 11-15. Among the visiting physicians who conducted clinics were: J. Bentley Squier, Jr., New York; Arthur C. Morgan, Philadelphia; Charles L. Scudder, Boston; Jennings C. Litzenberg, Minneapolis; W. Wayne Babcock, Philadelphia, and Emil Novak, Baltimore.

**Society News.**—At a special meeting of the Wayne County Medical Society, June 11, Dr. Arthur C. Morgan, Philadelphia, gave an address on "My Views of Tuberculosis."——Dr. George Van Amber Brown delivered the oration on surgery before the Illinois State Medical Society at its annual meeting in Decatur, May 15-17. His subject was "Practical Points in Embryology and Their Relation to Kidney Surgery."

**Personal.**—Dr. George W. Palm, Detroit, was shot and wounded, May 10, following a false telephone call to attend a patient.——Dr. Augustus W. Ives, professor of neurology and psychiatry, Detroit College of Medicine, has been appointed superintendent of the state public school, Coldwater, to succeed Dr. J. B. Montgomery, who has filled the position for twenty-five years.——Dr. Max Ballin, Detroit, spoke on "Spinal Cord Tumors" before the section on surgery of the Academy of Medicine of Toledo and Lucas County, at Toledo, May 25.——Dr. William T. Dodge, Big Rapids, president of the Michigan State Medical Society, gave an address on "The Relation of the Profession to the Public" before the Kent County Medical Society at Grand Rapids, May 9.

## MINNESOTA

**Personal.**—Dr. Nels Westby was recently reelected mayor of Madison.——Drs. Kenelm H. Digby, dean and professor of medicine, Hongkong (China) Medical College, and Oskar Frankl, professor of gynecology, University of Vienna, gave Mayo Foundation lectures, May 10, before the staff and fellows of the Mayo Foundation, Rochester. Dr. Digby's subject was "The Functions of the Tonsils and Appendix," and Dr. Frankl spoke on "The Relation of Cancer of the Stomach to the Female Sexual Organs."——Dr. John C. Staley has been named as successor to Dr. Arthur B. Ancker (who died recently) as superintendent of the St. Paul City and County Hospital, which has been renamed the Ancker Memorial Hospital.——Dr. Nels G. Mortensen, St. Paul, has been appointed by the governor as a member of the state board of health.

## MISSISSIPPI

**Hospital Destroyed.**—Fire destroyed the State Penitentiary Hospital, Parchman, May 27. The patients were removed without injury. The loss was estimated at $68,000. A new building will be erected immediately.

## MISSOURI

**Personal.**—Dr. C. R. Harrington, lecturer in pathologic chemistry, University College, London, was the guest of the department of biochemistry, Washington University School of Medicine, St. Louis, during May.——The Saline County Medical Society recently gave a banquet to Dr. John R. Hall, Marshall, in commemoration of the completion of his fiftieth year of practice in Saline County. Dr. David F. Manning was toastmaster.

## NEW HAMPSHIRE

**Health Week in Manchester.**—A very successful health week was conducted in Manchester, May 21-27. Health Sunday was celebrated in all the churches, May 20. Tuberculosis Day, Merchants' Day, Mothers' Day, Clean-Up Day and Inspection Day were other attractions. An open forum meeting was held at which Dr. Timothy Leary, Tufts Medical College, Boston, gave an address. Dr. Howard A. Streeter was in charge of the week's activities.

## NEW JERSEY

**Chiropodists Fined.**—The state board of medical examiners reports that L. J. Weiner, Red Bank, who advertised as a "Dr.," and Mrs. Mary Cox, Millville, each paid the penalty of $200 for practicing chiropody without a license.

## NEW MEXICO

**Health Officers Appointed.**—Dr. Frank E. Mera has been appointed as health officer of Sante Fe County, to succeed Dr. Douglas Brown, and Dr. Henry J. Abernathy, Hot Springs, fills the vacancy made by the resignation of Dr. James A. Steel, Hillsboro, as health officer of Sierra County.

## NEW YORK

**Aged Physician Sentenced.**—According to reports, Dr. Samuel S. Kennedy, Buffalo, was sentenced, June 1, to serve from two to five years in prison for shooting his office girl, Virginia Wardinsky, in August, 1921. Dr. Kennedy is 68 years old.

**Measles Prevalent This Year.**—According to figures recently made public by Dr. Edward S. Godfrey, Jr., director of the division of communicable diseases of the state health department, during the first four months of this year, 16,383 cases of measles were reported in the state outside of New York City, compared with 6,238 cases for the corresponding months of last year. The average for that period for the past five years has been 14,158.

**"Doctor" Arrested in Cocain Raid.**—Seventy thousand tubes of cocain were seized at the Associated Pharmacy Company, Brooklyn, May 31, according to official reports. Several men were arrested, including a man who gave the name of Dr. John Harrison, charged with violating the Harrison Narcotic Law. Assistant U. S. District Attorney Burke stated that the government considered the capture one of the most important in years, as business was being done on a large scale throughout the United States.

### New York City

**Indian Medical Equipment Exhibited.**—The equipment used by the medicine man of the Navajo Indians in the "healing" ceremony has just been added to other collections from that tribe at the American Museum of Natural History. It is the gift of the widow of the late Dr. John C. Graffin of New York, who died in Shiprock, N. M., while government physician to the Navajo Indians.

**City Ready to Treat Cancer.**—Bird S. Coler, commissioner of public welfare, announces that by June 15 the city will be giving radium treatment for cancer. Last year 5,495 persons died in the city from cancer. Approximately 200 beds have been set apart for the treatment of cancer in the City Hospital, while a clinic will be established in the dispensary of Fifty-Ninth Street near Third Avenue. Dr. Max Levine of Montefiore Hospital will serve gratuitously as the head of the city's clinic.

**Municipal Educational Exhibit.**—The Municipal Educational Exposition, commemorating the twenty-fifth anniversary of the formation of Greater New York City will be kept open for four weeks from May 28, at the Grand Central Palace. The department of health has a comprehensive exhibit showing its method of keeping records, the work of various bureaus, models of the institutions which it controls, and exhibits demonstrating phases of public health education, and its laboratory work. It is the most complete health exhibit which the department has ever opened.

**Roentgenologists Must Be Licensed.**—The recent amendment to the Sanitary Code requiring that all those using roentgen-ray machines be licensed by the department of health seems to have been misunderstood. According to a statement by the health department, certain physicians and dentists thought this regulation applies only to commercial and other laboratories offering facilities to the general public. To make the matter clear the editor of the *Weekly Bulletin* of the department of health asked the opinion of the corporation counsel. He states that it is evident this section of the Sanitary Code applies with equal force to individual physicians and dentists who do not hold out or advertise to the public that they maintain or conduct a roentgen-ray laboratory. Therefore all physicians and dentists using roentgen-ray machines are required to hold the board of health license permitting the use of such apparatus.

**Hospital News.**—Governor Smith has signed a bill recently passed by the legislature which provides "home rule" for the hospitals of New York City in the matter of reports and records. This bill amends the state charities law by leaving to the state board of charities the determination of the annual period for which reports shall be rendered by institutions subject to its visitation.——The Hospital Service of the New York Tuberculosis Association has been organized to furnish recreational diversions among tuberculous patients, and to assist in their health education. The extension of occupational therapy, the gathering of statistical information, and the arrangement of technical demonstrations for the medical staffs and of special lectures for the nurses, will also be arranged by this new auxiliary service.——The trustees of the Reconstruction Hospital have indefinitely postponed the contemplated erection of an eleven-story building to cost $1,500,000, work on the foundations of which has already been started.——The 100 bed Jewish War Memorial Hospital at Dyckman Street and River Road was formally dedicated, May 27. Plans are made for additional wings to increase the capacity of the institution to a 400 bed capacity ultimately.

## NORTH DAKOTA

**Hospital Reopened.**—The Lidgerwood Hospital, Lidgerwood, which has been closed for about a year, has been reopened to the public with Dr. Ernest G. Sasse as superintending physician.

**State Medical Meeting.**—At the annual meeting of the North Dakota State Medical Association at Grand Forks, May 31-June 1, the following officers were elected for 1923-1924: president, Dr. James Grassick, Grand Forks; president elect, Dr. William C. Fawcett, Starkweather; vice presidents, Drs. John H. Rindlaub, Fargo, and Hugo O. Altnow, Mandan; secretary, Dr. Hezekiah J. Rowe, Minneapolis, Minn., and treasurer, Dr. William W. Wood, Jamestown.

## OHIO

**Society News.**—At the annual meeting of the Cincinnati Academy of Medicine, May 28, Dr. John C. Oliver was elected president for the ensuing year; Dr. Alexander G. Drury, vice president, and Dr. F. Merrick McCarthy, secretary.

**Vital Statistics Bureau Issues Warning.**—Dr. E. J. Schwartz, chief of the state division of vital statistics has issued a warning to all physicians of the state that they must register all births within ten days. Every mother is requested to insist on a certificate from the health commissioner showing the birth has been recorded.

**Chiropractors Fined and Imprisoned.**—According to information received May 25, C. J. Mills and R. F. Hahn, both of Napoleon, and L. M. Nesmith, proprietor of the Nesmith Chiropractic College, Dashler, were fined $150 each by Judge Bretz on charges of practicing medicine without a license. Mills and Hahn refused to pay and will serve a jail sentence.——O. L. Knechily and his wife, Hazel, and D. D. Owens, chiropractors of Portsmouth, were sentenced to serve terms in the county jail in default of paying fines of $50 each, according to reports, and Dr. P. D. Parks, Portsmouth, was fined $50, May 28.——Seven Akron chiropractors, G. H. Bellinger, L. D. Wheeler, W. J. Wenger, W. A. Ball, E. G. Whitzel, Fred F. Raulfs and D. A. Brown, were sentenced to 184 days each in the county jail, in default of paying fines of $100 each, for practicing medicine without a license.

## PENNSYLVANIA

### Philadelphia

**Nathan Lewis Hatfield Lecture.**—Dr. Frederick G. Banting, Toronto, Canada, delivered the fifth Nathan Lewis Hatfield lecture at the College of Physicians, Philadelphia, June 6, on "The Use of Insulin in the Treatment of Diabetes Mellitus."

**Personal.**—Dr. James A. Irwin sailed for France, May 26, and will return to Philadelphia in October.——Dr. James H. Mason Knox, Jr., Baltimore, chief of the bureau of child hygiene of the state of Maryland, spoke on "Child Hygiene Work in Central Europe," at a meeting of the Philadelphia Pediatric Society and the Child Hygiene Association of the Children's Hospital in Philadelphia, recently.

## SOUTH DAKOTA

**Public Health Drive Launched.**—During the forty-second annual convention of the state medical association, the South Dakota Society for Community Health and Public Instruction was organized for the purpose of promoting public health and giving information on matters of health preservation. Dr. Robert L. Murdy, Aberdeen, was elected chairman and Dr. Nelson Hopkins, Arlington, secretary-treasurer. The society will launch a campaign to have school children, whose parents cannot afford the expense, given medical and surgical attention.

**South Dakota State Medical Association.**—At the forty-second annual meeting of the association in Watertown, May 22-24, the following officers were elected for 1923-1924: president, Dr. Francis E. Clough, Lead; vice presidents, Drs. Robert L. Murdy, Aberdeen, William R. Ball, Mitchell, and Theodore F. Riggs, Pierre, and secretary-treasurer, Dr. Robert D. Alway, Aberdeen (reelected). One of the features of the convention was the unveiling of a portrait of the late Dr. Frederick A. Spafford, formerly of Flandreau. The picture was presented to the state and will be hung in the capitol building at Pierre.

## UTAH

**Utah State Medical Association.**—The twenty-ninth annual meeting of the association will be held at the University of Utah, Salt Lake City, June 20-22. Among the visiting physicians who will give addresses are: John F. Erdmann, New York; Henry S. Plummer, Rochester, Minn.; Vilray P. Blair, St. Louis, and Albert J. Ochsner, Chicago.

**Banquet for Dean Snow.**—A farewell banquet was tendered Dr. Perry G. Snow, retiring dean of the University of Utah School of Medicine, Salt Lake City, by the students of the medical association of the University, May 24. Prof. L. L. Daines, Ph.D., acted as toastmaster. Dr. Snow, who will be succeeded as dean by Dr. Ralph O. Porter, Logan, will make a tour of the eastern medical schools.

## WISCONSIN

**Society News.**—At a meeting of the Milwaukee Academy of Medicine, June 12, Dr. Victor C. Vaughan, Chicago, chairman of the National Health Council, gave an address on "The Future of Medicine." S. A. Barrett, director of the Milwaukee Museum, spoke on "Some Medical Practices of the Indians." This was the last meeting of the academy until October 9.

**Sanitation at Summer Resorts.**—The state department of health has sent letters to all summer resort owners, advising, that, because of remoteness from municipal sanitary facilities, resorts are health hazards for tourists. Methods for thoroughly cleaning and repairing all equipment on these premises were outlined. Owners of resorts are advised to send samples of water to the local health officer for analysis by the state laboratory. Persons having any communicable disease are not to be employed at summer resorts especially those who have had typhoid fever within three years, until it has been definitely determined that they are not typhoid carriers. This is a mandatory provision.

## GENERAL

**American Surgical Association.**—At the annual meeting of the American Surgical Association in Rochester, Minn., May 31-June 2, Dr. George W. Crile, Cleveland, was elected president to succeed Dr. Lewis L. McArthur, Chicago.

**American Proposals on Opium Win.**—Following acceptance of the American plan to curb the traffic in opium at the meeting of the League of Nations' opium commission in Geneva, it is said the next stage in the campaign of the American government to end the narcotics menace will occur in the council and in the assembly of the league. Acceptance of the American proposals, after a bitter fight by India, who insisted that the "semi-medical usage" of opium was necessary, is regarded in official circles as a long step forward.

**Southern Baptists Hospital Convention.**—At the recent convention in Kansas City, Mo., it was announced that the Southern Baptists now have twenty-one hospitals with a bed capacity of 2,659. During the last year nearly 48,000 patients were treated in these institutions. The value of hospital property now in operation is $8,300,268. New institutions are planned and others are under construction, which will raise the number to thirty-two hospitals. Five of the hospitals carry on research work.

**Society News.**—The semi-annual meeting of the Sioux Valley Eye and Ear Academy will be held in Omaha, July 9. ——The Tri-State Hospital Association of Minnesota, North and South Dakota, Wisconsin and Iowa, met in Minneapolis, May 17-18.——A dinner conference for cancer workers will be given at the Fairmont Hotel, San Francisco, June 28, under the auspices of the American Society for the Control of Cancer, following the open forum on cancer to be held, June 24, under the joint auspices of the American Medical Association and the California State Medical Society. Dr. A. R. Kilgore is in charge of the dinner conference arrangements.

**Fund to Aid German-Austrian Scientists.**—Dr. Graham Lusk, treasurer, reports that the aggregate receipts of the German-Austrian Fund amounted to $2,660, subscribed to by eighty-eight American scientists in sums ranging from $5 to $450. The money was distributed among thirty-three German-Austrian medical laboratories which were designated by the donors in sums ranging between $25 and $300. The account has been closed and has been audited by Dr. Rufus Cole. The following letter is a typical response: "Please accept my most grateful thanks for your most generous gift. Almost daily I think with gratitude of the help which my department has received from America. I am fully aware of the fact that, but for this help, it would have been impossible to continue our classes and scientific investigations."

**Bequests and Donations.**—The following bequests and donations have recently been announced:

University of Michigan, Ann Arbor, Mich., for the first unit of the University Hospital, $650,000, by Mayor Couzens of Detroit.

Lewis A. Mason Memorial Hospital, West Chester, Pa., $600,000, by Pierre S. DuPont of Wilmington, Del.

Hospital for Joint Diseases, New York, $200,000, by the directors.

Chicago Federation of Aged and Adult Charities, $76,025, the result of a tag day.

Overall Memorial Hospital, Coleman, Texas, $75,000, for the erection of the institution by Mrs. M. Tye Overall.

St. Francis Hospital, Waterloo, Iowa, $36,800, from the estate of John Corton of Waterloo.

Homeopathic Hospital, Reading, Pa., $15,000 by William H. Luden, and $5,000 each, by S. D. Bausher and C. E. Leippe.

Nicholasville, Ky., for a hospital building, $10,000, and a site by Melancthon Young.

Jewish Hospital Association and the Jefferson Medical College of Philadelphia, each, $10,000; Federation of Jewish Charities, $2,500, and the Pennsylvania Hospital, $1,000, by the will of Judge Mayer Sulzberger.

Johns Hopkins Medical School, Baltimore, for the department of syphilis, $9,000, by the Interdepartmental Social Hygiene Board, and for the cardiographic laboratory, $5,000, by Mrs. William Bingham of Cleveland.

Christ Hospital, Jersey City, N. J., $5,000; New York University, $1,000, by the late Dr. Henry S. Drayton of Jersey City.

Jefferson County Tuberculosis Sanatorium, Birmingham, Ala., $2,500 each by Major E. M. Tutwiler and Richard W. Massey, and $1,000 each, by Leo K. Steiner and W. H. Hassinger.

Beth Israel Hospital, Montefiore Hospital, and the Mount Sinai Hospital, New York, $500 each by the will of Charles Kohlman.

St. Louis Medical Society, $250, to defray expenses for care of indigent crippled children of the city. from proceeds of the Health Show, by Dr. Max C. Starfioff

Hospital Commission of Winston-Salem, N. C., 100 milligrams of radium by Mr. and Mrs. Bowman Gray of that city.

## CANADA

**Summer School Clinics.**—The fourth annual meeting of the summer school of the Vancouver Medical Association will be held in Vancouver, July 3-6, at the same time as the annual meeting of the British Columbia Medical Association. Dr. Henry A. Christian, physician in chief, Peter Bent Brigham Hospital, and Hersey professor of medicine, Medical School of Harvard University, Boston; Dr. Carl B. Davis, associate professor of surgery, Rush Medical College, Chicago; Dr. Andrew Hunter, professor of biochemistry, University of Toronto, Ont., and Thomas C. Routley, assistant secretary of the Canadian Medical Association, will be among the lecturers. The registration fee for the course is $10. Intending members should register at the Vancouver General Hospital, June 30 or July 1, and at the Normal School, July 3.

## LATIN AMERICA

**Practice of Medicine in Peru.**—In order to keep better control over the practice of medicine, the government has placed the matter in charge of the national public health department. A commission has been appointed, headed by the director of public health, to issue regulations governing the practice of medicine.

**Institute for Infant Welfare Planned at Montevideo.**—The *Archivos Latino-Americanos de Pediatria* relates that the recent visit of Professor Cacace of Naples, the apostle of nipiology, to South America has inspired the Italian colony in Montevideo to plan the foundation of a complete Instituto de Nipiologia. It is proposed to have it ready to present to the state in 1925, in commemoration of the independence of Uruguay. The term nipiology is from a Greek word signifying a very young infant.

**Social Economy Exposition.**—The Museo Social Argentino, an organization for the promotion of social and political studies and reforms, plans to hold an international exhibition of social economy in Buenos Aires during the first six months of 1924. There will be a congress of social museums and similar institutions at the same time. Delegates and exhibits from practically every country of the world are expected to attend. The Argentine Government is helping to promote the meeting and exposition.

**Personal.**—Dr. Fred A. Miller has returned to Bogota after a four months' trip to the United States. He has charge of the hookworm campaign in Colombia.——The "Instituto Médico Sucre" has elected as corresponding member Prof. A. Navarro of the University of Montevideo. Dr. E. L. Osorio is editor in chief of the *Revista*, published quarterly by the institute.——The Museo Social Argentino of Buenos Aires has elected, as corresponding member, Prof. E. Levi, founder and director of the Italian Istituto di Previdenza ed Asistenza Sociale.——The *Folha Medica* states that the

French government has decorated Prof. Fernando Magalhães of Rio de Janeiro, president of the Sociedade de Medicina e Cirurgia, as officer of the Legion of Honor.

## FOREIGN

**The Campaign Against Cancer in Italy.**—Medical and scientific notables assembled from all parts of the country for a meeting in Bologna for the purpose of effecting the organization of a national federation against cancer. Professor and Senator Foa is president; Profs. M. Ascoli and R. Bastianelli are vice presidents, and Prof. G. Lusena of Genoa is secretary.

**Orthopedics Congress in the Netherlands.**—The Netherlands Orthopedic Society celebrated in May the twenty-fifth anniversary of its foundation with a three-day meeting at Amsterdam. Among the foreign speakers were Lorenz, Albee, Calot, Spitzy, Biesalski and Putti. Murk Jansen presided at the meeting, and one day was devoted to discussion of rehabilitation of the disabled as practiced in France, England, Italy, Germany and the Netherlands.

**Medal Awarded to Eijkman.**—The *Nederlandsch Tijdschrift voor Geneeskunde* congratulates Prof. C. Eijkman and the Netherlands on the honor conferred by the awarding to him of the John Scott medal and money prize by the American Philosophical Society, founded in 1727 by Benjamin Franklin. Eijkman's pioneer work on deficiency diseases is well known. The editorial adds that the recipients of the other medals awarded at the same time were Sir Joseph John Thompson and Professor Aston of Cambridge, recipient of the Nobel prize in chemistry for 1922.

**University News.**—The new building for the bacteriologic department of the University of Durham College of Medicine, Newcastle-on-Tyne, was dedicated, May 25.——Dr. John S. B. Stopford has been appointed dean of the Victoria University Medical School, Manchester (England), to succeed Dr. Robert B. Wild.——A short course for the diploma in psychologic medicine will be held at the University of Cambridge, England, from July 10-August 17, if a sufficient number apply. The subjects covered will be the physiology and anatomy of the nervous system, psychology, psychopathology, mental deficiency and practical psychiatry.

**Society Proceedings.**—The fourth annual International Neurologic Reunion convenes at Paris, June 8-9, 1923. The subject appointed for discussion is "Compression of the Spinal Cord." The secretary is Dr. H. Meige, 35 rue de Grenelle, Paris.——An International Conference of Day Nurseries was held in London in May for two days. Delegates from France, Holland, Belgium, Italy, Sweden, Egypt, India, Japan, Canada and the United States attended the conference. ——The second session of the International Association for the Promotion of Child Welfare will be held in Geneva in July. The agenda includes questions of a juridical, hygienic and general nature.——The British Medical Women's Federation held its annual meeting and first annual banquet in London, May 10, under the presidency of Lady Barrett, M.D. The membership of the federation is now 800. The constitution of the International Medical Women's Federation, which was drawn up last year at Geneva and at which Dr. Esther Lovejoy of New York presided, has been approved by the medical women of eighteen countries.

**Protest Against Alcohol in Germany.**—Our German exchanges publish an appeal to the authorities from the professors of hygiene in the universities, which warns of the dangers from the increasing consumption of alcohol. During the World War, the number of cases of alcoholism dropped to one sixth of the prewar figure which is now being rapidly regained. The present measures to restrict the use of foodstuffs for production of spirituous beverages and the regulations against production of strong beer, they say, are not enough. They declare that it should be forbidden to use any foodstuffs in the production of alcoholic drinks, and that the importation of liquor should be prohibited. The most effective measure would be the prohibition of production and sale of brandy and liqueurs. Until this is done, they advise strict control of drinking places, and advocate an improved Gothenberg system. The circular calls attention further to the evil effect on the mind and will power of alcohol: "In these grave times, the peoples need more than ever clear minds and resolute wills."

**Personal.**—Dr. Thomas S. Higgins, London, has been appointed medical officer of health for Cape Town, South Africa, to succeed Dr. Alfred J. Anderson, who resigned recently.——Dr. E. D. Wiersma, professor of psychiatry and neurology in the University of Groningen, delivered a lecture on the "Psychology of Epilepsy" before the Royal Society of Medicine, London, May 24.——Sir Arthur Keith will deliver the twelfth biennial Huxley lecture on "Recent Advances in Science" at the Charing Cross Hospital Medical School, London, June 27.——Professor Mühlens of Hamburg has been asked by the Jugoslavakian government to aid in fighting malaria in Dalmatia, and has left for that country. ——The Italian government has decorated three Belgian physicians, Dr. Lecrenier of Huy and Drs. Closset and Lambinon of Liége for services rendered during the war to Italian prisoners.——The French government decorated Prof. E. Malvoz of Liége on the occasion of the Pasteur centennial celebration at the University of Liége.——Dr. Luis del Rio y Lara was the guest of honor at a banquet recently at Zaragoza. He has been called to the chair of histology and anatomy at the University of Madrid vacated by Ramón y Cajal. Del Rio has been professor at the Zaragoza University for thirty years.

**The Strasbourg Pasteur Celebration.**—As bacteriology originated at Strasbourg, when Pasteur was professor, 1848-1854, the professors of bacteriology the world over have contributed with others to the Pasteur monument which was unveiled there May 31. The *Presse médicale* states that Belgium presented for the monument 5,000 francs; Denmark, 57,000; Great Britain, 55,000, the Netherlands, 16,000, Norway, 4,000; Peru, 6,000; Sweden, 3,000, and Switzerland, 2,000. The city of Buenos Aires donated 125,000 and the sum was raised to 200,000 francs by private subscriptions throughout Argentina. The United States was inscribed for 12,000. As already mentioned, congresses are scheduled on tuberculosis, June 2; ophthalmology, June 9; cancer, July 23; dermatology, July 25; the third international confegence on leprosy, July 28, and a congress on puerperal fever, August 1. The last international conference on leprosy was held at Bergen ten years ago. In addition to these medical gatherings there will be congresses on inexpensive homes, municipal hygiene, heating and ventilation, refrigeration, milk supplies, pomology and, finally, in September, the congress of the Alliance de l'hygiène sociale. The *Presse médicale* for May 16 gives the full program of the four months' celebration in honor of Pasteur and international exposition, and of the various congresses, accommodations, etc.

### Deaths in Other Countries

Dr. **Mark Style**, in London, May 14.——Dr. **Arthur Looss**, former professor of parasitology and biology at the University of Cairo; died, May 4, at Giessen, Germany, aged 62.

## CORRECTIONS

The following paper was inadvertently omitted from the index of the *Journal of Experimental Medicine*, New York, 37:303-428 (March) 1923, published in THE JOURNAL, May 12, p. 1411:

Studies on Total Bile. II. Relation of Carbohydrates to the Output of Bile Pigment. P. Rous, G. O. Broun and P. D. McMaster, New York.—p. 421.

**Urea Content in Saliva.**—The abstract under the foregoing head (THE JOURNAL, June 2, 1923, p. 1657) should have read: "Landsberg found approximately the same amount of urea in saliva as in the blood serum."

# *Government Services*

### Army Medical School Graduation

Commencement exercises of the Army Medical School were held at the National Museum Auditorium, Washington, D. C., June 8. Thirty-one officers, majors or captains, who had successfully completed the army medical course of six months' technical and clinical graduate training at the Walter Reid Hospital and the Army Medical School in Washington, and four months' training at the Medical Field Service School, Carlisle, Pa., comprised the graduating class. The Surgeon-General plans to have all medical officers take this course, which plan will require several years to complete. The Assistant Secretary of War presented the diplomas. Capt. William D. Gill received the Hoff Memorial medal, having attained the highest standing in the class. Major Frank S. Matlack was presented with the Sternberg medal for the highest proficiency in preventive medicine by Dr. George M. Kober, dean of the Georgetown University School of Medicine, Washington.

# Foreign Letters

## LONDON

*(From Our Regular Correspondent)*

May 21, 1923

### The Group Clinic

A group clinic in private practice, such as has existed in the United States for some years, has been started in London at Brook Street. The group consists of fourteen specialists, with whom are associated some experts in special subjects who are available when required. Patients are first interviewed by a general practitioner, who decides the particular consultants that the patient is to see. A roentgen-ray and a pathologic department are provided in the house. The patients are charged a flat rate for the consultation and investigation required, but the amount varies to some extent according to the requirements of the case and the necessity for prolonged pathologic examination. When the investigation is completed, the members of the group concerned meet for discussion, and the patient's own physician is invited to attend. The necessity for the group clinic was first pointed out by Sir Thomas Horder in an address to the Abernethian Society of St. Bartholomew's Hospital, in January, 1922. He considered that the conditions for which "group diagnosis" was particularly suitable were chronic toxic processes, whether microbic or metabolic, arthritis and fibrositis, many gastro-intestinal disorders, and a large group of neurasthenias. He thought that in the United States some of the clinics were too large, so that the process became mechanical and the patient was sent on a "circular tour" from which he emerged with a voluminous *dossier*, but no considered judgment as to the nature of his malady.

### The School of Hygiene

In February, 1922, the Rockefeller Foundation made the munificent offer of $2,000,000 for the building and equipping of a school of hygiene in London. The government accepted the offer and promised to furnish the upkeep. Land was acquired for the purpose in Bloomsbury. A proposal has been made to appoint provisionally a director for the school, and the foundation undertook to provide a sum not exceeding $20,000 a year toward his salary and expenses. The minister of health, with the concurrence of the trustees of the Rockefeller Foundation, has appointed a transitional executive committee in connection with the school. The functions of this committee will be to appoint the director, arrange for amalgamation or coordination between the school and other institutions working in similar or closely related spheres, prepare plans for the school, and begin building, unless in the meantime it has been possible to set up the permanent governing body.

### Crisis in the Insurance Service

The approaching revision of the terms of service of insurance physicians seems likely to result in a crisis. A good deal of dissatisfaction with the working of the system has been expressed in the press, but though the faults found are susceptible of remedy, there is one proposal that may lead to an acute struggle. During the war, the remuneration of insurance physicians, like other rates of pay, was raised in correspondence to the increased cost of living. Now there is a downward movement of prices and a general tendency to reduce salaries and wages, which is always opposed by the persons concerned if they are organized. The panel physicians have already submitted to one reduction, but their remuneration is still above the prewar level, and the increase corresponds to an additional government subsidy of about 50 cents in the capitation fee. The government is bent on economy, and has intimated that it can no longer continue the subsidy. If this is to continue it must be paid by the insured, and the friendly societies, which represent them, have expressed unwillingness to do this. The British Medical Association is convinced that, in spite of exceptions, the present service is a good one, securing medical care for a large section of the population, such as was never previously obtainable, and under conditions, on the whole, not inferior to those of private practice. It holds that the economic value of the service is represented by a capitation fee of $2.75, the amount fixed in 1920, and that the insurance fund in the aggregate is in the position to meet this cost without requiring any increased contribution from insured persons or subsidy from the government beyond that originally fixed. Dealing with the various complaints that have been made as to the service, it thinks that in the case of "lock-up surgeries" (offices) arrangements should be such as would enable a caller to get in touch with the physician or his deputy with promptitude. This would entail either a resident caretaker and telephonic communication with the physician's house, or, when the physician lives within a limited distance, notice visible by day and night indicating where he or his deputy can be found, or, when he lives at a distance, so that only his deputy is available at certain hours, the giving of a written notice of the arrangement to the patients. On the question of limitation of the number of insured on the physician's list, it advises that a proposal to reduce the present one of 3,000 to 2,500 should be accepted. It also favors the proposal to widen the freedom of choice of the patient, so that he can change his physician at any time.

Dr. Edwin Smith, a London coroner who is also a physician, has raised a storm by an attack on the insurance system. He described it as "a disastrous blunder and a miserable failure which puts a premium on scamped work." At a typical panel consultation, said he, the patient announced what seemed to him the most prominent symptom —a cough or a pain or the like—and instantly was given a prescription. There was no time for anything but the most perfunctory investigation, for the waiting-room was full of patients, and he was hurried from the surgery almost before he had entered it. The underlying cause of the symptoms must be missed in an immense number of cases, and a vast amount of disease overlooked, such as various forms of tuberculosis and disease of the heart or kidney. The human machine out of order did not lend itself to this lightning diagnosis and penny-in-the-slot style of treatment. Apologists for the system pointed to the infrequency of complaints, but only rarely would a patient go to the length of making a formal protest. On the whole, the worst work was done by the men drawing the largest incomes. He admitted that there were many physicians striving to do good work in the irksome and difficult conditions of panel work. As a remedy for the present system, he suggested one under which the physician was paid for actual work done and the patient freed from restrictions both in choosing and in changing his physician. Dr. Cox, medical secretary of the British Medical Association, replied to the coroner by pointing out that the majority of general practitioners were panel physicians, and therefore that he had attacked the profession at large. All the evidence that the British Medical Association had was that the system had greatly improved in the last two or three years, and that evidence of dissatisfaction was based on a few individual bad cases. The coroner was wrong in suggesting that the panel physician necessarily had a large number of cases. The average was less than 1,000 and in many districts the highest allowed was 2,500 or 2,000. The average number of attendances for each insured person yearly was 3.6. Therefore a physician with 1,000 would on an average see ten insured perons daily, and those with the

largest lists, thirty. As to the coroner's two proposals, the first had been considered by the council, which represents insured persons, and rejected, and the second had been proposed by the medical profession itself.

### The Training of the Physician in Psychiatry

In a memorandum to the minister of health on medical education, Sir George Newman, principal medical officer, points out that the practitioner's approach to mental disorder should be through a twofold training, in psychology and psychopathology. The former should belong to physiology in its widest sense; the latter falls within the clinical years. Between the two, or as a part of either, may well come a brief course of a few lessons in medical psychology, with particular reference to psychoneuroses, instruction as to the examination of the patient, the practice of suggestion and persuasion, psychologic analysis and mental testing. To these courses should be added clinical work, first in a mental hospital and then in the outpatient clinic for nervous and mental disorders at the general hospital. He suggests a curriculum consisting of (1) a short course of lectures (from five to ten) in normal psychology, preferably as part of the course in physiology (reflexes, habit, instinct, emotion, intelligence, the conscious and the unconscious mind, Binet tests and investigational methods); (2) six explanatory discourses in abnormal psychology concurrently with clinical work in mental disease; (3) ten or twelve systematic lectures on mental disease concurrently with clinical work at a mental hospital, pronounced cases and the usual types of insanity, and (4) a series of demonstrations in the outpatient clinic for nervous and mental disorders at the general hospital.

## MADRID

*(From Our Regular Correspondent)*

April 25, 1923.

### Postoperative Complications—Rupture of Colon Following Injection of Pituitary Extract

Recasens, professor of gynecology and dean of the Madrid medical school, has presented to the Royal Academy of Medicine an interesting paper on "Complications Following Gynecologic Operations." He was led to write it by a truly extraordinary case. The patient was a woman with uteroadnexal inflammatory lesions. The uterus and adnexa were removed. For a few days, things progressed favorably, but on the eighth or ninth day, as the bowel movements, which had never stopped, seemed rather small, a routine injection of pituitary extract was given. In less than half an hour, the patient stated that she felt as if something had burst inside. Two hours afterward, she was dead. At necropsy, the colon was found enormously distended and "exploded," with a large quantity of hardened fecal matter, true coproliths, in the peritoneal cavity. Recasens stated that he had not found a similar instance in the literature, and while not positive as to its being due to the action of pituitary extract on the muscular fiber of the intestine, he felt compelled to report the case, as being one more addition to postoperative complications in abdominal surgery. He regretted the absence of the old cooperation between general physicians and the specialists. Nowadays the former pay too little attention to cases that require operation, and the latter disregard entirely too much the opinion of the family physician. He reported two cases of gastro-intestinal hemorrhages following gynecologic operations. In one, seven days after the operation, the patient vomited an enormous amount of blood, with much melena. This patient eventually recovered. The other patient died three days after the operation, through the loss of blood caused by the erosion of a large vessel in a duodenal ulcer.

He recalled the death of a patient with mumps, and pointed out that when he visited the Virchow Hospital in Berlin, he noted at each bedside the necessary equipment for mouth washing and disinfecting. He was told that many patients in this way acquired the habit of cleansing their mouths. He has introduced this practice in his ward. Recasens then referred to mouth hygiene as practiced in the Mayo Clinic, where in all cases roentgenograms of the mouth are made and all teeth with focal infections are extracted.

Dr. Vital Aza stated that in his operations, better results have been obtained by following Döderlein's advice of not giving cathartics to patients before making a laparotomy, as catharsis is followed by intestinal paralysis. Professor Hernando advised that patients to be submitted to a laparotomy should not receive cathartics as a routine measure, and whenever indicated, to omit catharsis the day preceding an operation. Starvation on the operation day should be condemned, as it favors acidosis. Large amounts of starchy foods and sugar should be given to prevent acidosis and build up hepatic defenses. Alkaline waters should be administered. He warned against the use of liver extracts. A healthy liver prevents intoxication, but hepatic extracts increase it.

### Malaga Against International Sanitation

At Malaga, the beautiful Andalusian city, there occurred four cases of bubonic plague which were duly diagnosed by the local sanitary inspector. As soon as the outbreak was reported, pursuant to law, the national health department declared the port infected, as required by international conventions, and reported the fact to foreign health authorities. Sanitary measures were immediately applied with sufficient vigor to eradicate the disease. What seems strange, although typical of conditions in Malaga, is the fact that all classes, including the physicians, and headed by the business element, signed a protest against the sanitary authorities of Malaga itself; the provincial sanitary inspector, who had to be transferred elsewhere, and finally, the director general of public health himself. In their eagerness to secure a statement that there had been no such disease as plague at Malaga, a committee was sent to Madrid, which even had the audacity to threaten the secretary of the interior. The secretary, however, impressed energetically on the committee the fact that Spain must fulfil its international duties.

## PARIS

*(From Our Regular Correspondent)*

May 18, 1923.

### The League of Nations and the Regulation of the Traffic in Narcotics

The opium advisory commission of the League of Nations has just met at the headquarters in Geneva of the general secretary of the league. M. Bourgeois, the French delegate, who was elected chairman, communicated to the commission a letter from a delegation sent by the government of the United States to take part officially in the work of the opium commission. In this document, the American delegation, which expressed the desire to keep in touch with the work of the commission, elucidated the point of view that it expected to take. The government of the United States holds that, in order to combat effectively the illicit traffic in narcotics, it is necessary to limit production. It will doubtless propose to the League of Nations opium commission that serious consideration be given to reduction of the amount manufactured in the various producing countries; namely, for opium, Great Britain, Turkey and Persia, and for cocain, Peru, Bolivia and Holland.

Immediately after receiving the communication from the government of the United States, the opium commission

instructed its chairman to invite the American delegation to take part in its deliberations. This will be the first time that the United States will have been officially represented on any commission of the League of Nations. The delegation of the United States is composed of Mr. Stephen G. Porter, chairman of the committee on foreign affairs of the House of Representatives; Bishop Charles H. Brent, who, in 1919, directed the work of the Shanghai conference on the opium traffic, and Dr. Rupert Blue.

### Geographic Distribution of World Disasters

Among the questions with which the League of Nations had to deal at the Genoa Conference was the draft of a constitution and by-laws for the proposed Oeuvre internationale de secours et d'assistance aux populations frappées de calamités. This project, which is fostered by Senator Ciraolo, president of the Italian Red Cross Society, is an endeavor to induce the signatory powers of the Geneva Convention to enter into a new agreement which would give further recognition to the Red Cross in its peace rôle, and, more particularly, in its function as an aid in great public calamities. The international organization, according to Ciraolo's plan, must be "one and universal, and must remain neutral in all matters pertaining to politics, religion and race."

Since, as a rule, great catastrophes and public calamities come suddenly, taking their victims unawares, it seems rational to establish an international society so organized as to be able to render immediate aid in case of need. The representatives of the international society will need to study the history of different peoples and the catastrophes to which they are exposed, in order to be prepared to provide adequate assistance in time of need. It has, therefore, occurred to the international committee of the Red Cross that it might be advisable to publish a map of the world showing the distribution of the various types of calamities that overtake, from time to time, different regions of the globe. This task has been undertaken by M. Raoul Montandon, president of the Société de géographie of Geneva, who has just published an important article on the subject in the Revue internationale de la Croix-Rouge. It has been found that the expense of publishing such a map in colors would be too great; for this reason M. Montandon has found it necessary to confine himself to the publication of a series of smaller maps in black and white. There will be separate maps showing the distribution of earthquakes, tornadoes, cyclones and typhoons, droughts, floods, famines, bubonic plague, cholera and yellow fever, and other calamities.

### The Centenary of Pasteur at Strasbourg

In view of the fact that Pasteur was professor at the University of Strasbourg from 1848 to 1854, and recalling that here he made his first discovery in crystallography and molecular dissymmetry, it is only natural that the celebration of the centenary of the famous scientist should have assumed in this city an impressive and imposing character. May 31, the unveiling of the monument to Pasteur, erected on University Square, will take place. Later, the Hygienic Museum, intended to perpetuate the memory of Pasteur and his discoveries, will be dedicated. The same day, in the presence of the president of the republic, an international exposition, which has for its purpose the demonstration of the results of Pasteur's work in the fields of medicine, hygiene, industry and agriculture, will be opened. The exposition will last four months, and during this period there will be held in Strasbourg a large number of national and international congresses: notably, the fifth National Congress of Tuberculosis, the thirty-sixth Congress of the French Ophthalmologic Society, the second Congress of French-Speaking Dermatologists and Syphilologists, the International Congress of City Management and Municipal Hygiene, and the third International Conference on Leprosy.

### Reforms in the Medical Curriculum

The secretary of public instruction is at present working out a new plan of study preparatory to the degree of doctor of medicine. In the *Progrès médical*, Dr. J. Vanverts, professor at the Faculté de médecine of Lille, recently published some interesting ideas of his own on the subject. He regrets especially that purely theoretical instruction has been retained in the new curriculum. He holds that manuals and treatises on various theoretical subjects are numerous and well edited, so that the student can find discussions on all questions with which he needs to be familiar. The university professor should never be content to lecture on a field that is already well covered in the ordinary manuals. He has a more useful task to perform. During the course of his instruction, he should endeavor to establish direct relations with the student; give explanations; direct the study of anatomic and pathologic specimens, drawings and photographs, and illustrate experimental and operative procedures. The elimination of purely theoretical courses, Vanverts holds, would allow more time for personal work and preparation for the competitive examinations (externship, internship, etc.). The truth of this statement becomes evident when we read in the circular letter by the secretary that accompanied the proposed new curriculum, when it was submitted to the medical faculties, the complaint as to the excessive number of courses, and the opinion that it is impossible for the student to keep up all the drills and exercises in which he is supposed to participate.

Vanverts regrets that the new plan of study eliminates practical operative work on the cadaver. It substitutes instead compulsory service as hospital orderlies during the third, fourth and fifth years, and a demand is made that the medical faculties make some agreement with the hospital administrations whereby the students are given an opportunity to take part in emergency surgical operations in the services to which they are attached. But it may be questioned whether the student will really have an opportunity, while serving as an orderly, to perform many operations, for the reason that minor operations are usually assigned to the interns and externs, who will not willingly renounce this privilege. Under these circumstances, Vanverts thinks that it is a mistake to abolish operative work on the cadaver, which, from the standpoint of knowledge of topographic anatomy, complements dissection and gives the student practice in performing most of the simpler operations.

### Privileged Communication and Declaration of Death

In most cities of any size there is a municipal medical service whose duty it is to investigate and verify reports of death. When a death occurs, the attending physician reports his diagnosis of the cause of death, in a sealed envelop, and the municipal physician, after verifying the fact of death, is usually content to transfer the diagnosis of the attending physician to his death certificate, which alone is accepted by the civil authorities as evidence. This system has several advantages. In the first place, it constitutes a protection against premature burial in certain cases of apparent death; secondly, in cases in which foul play may be suspected, it allows the inspecting physician, who is not bound by the right of privileged communication, to mention in his certificate his doubts as to the cause of death. The city of Marseilles has no medical inspectors, and it is the duty of the attending physician to make out the death certificate; he may thus find himself in an embarrassing situation. Dr. Dufour recently communicated a case of this kind to the Société de médecine légale of France. A young man, who was wounded

in the stomach by a shot from a revolver in the hands of a friend, was conveyed to a hospital. Before operation, the wounded youth enjoined on the surgeon the strictest secrecy, irrespective of the outcome of the surgical intervention. Laparotomy revealed four perforations of the small intestine, which were sutured. Acute peritonitis developed, and the young man died. It was the duty of the surgeon to furnish a death certificate, and he entered "peritonitis" as the cause of death. This certificate was accepted, and the body was buried. One month later, the authorities were informed of the homicide; the perpetrator of the act was arrested and confessed. The surgeon, when called as witness, stated that, by reporting in the death certificate "peritonitis" as the cause of death, he deemed that he was upholding the right of privileged communication and, at the same time, was telling the truth. If, after the word "peritonitis," the surgeon had added the words "resulting from a bullet wound of the abdomen," he would have violated the right of privileged communication.

After discussing the communication of Dr. Dufour, the Société de médecine légale declared that the lack of systematic verification of deaths by physicians acting under municipal authority, in Marseilles and a number of other large cities, was regrettable and sometimes placed attending physicians in impossible situations.

### A Pavilion for Argentinian Students in Paris

In my preceding letter (THE JOURNAL, June 9, 1923, p. 1706) I referred to the construction of the so-called "University City." Argentina has taken a great interest in the plan, and has appointed Dr. E. V. Segura, professor at the Faculté de médecine in Buenos Aires, to inquire into the matter. The latter has already secured the cooperation of M. Otto Bemberg, former Argentinian consul in Paris, who has decided to take on himself the construction of a pavilion and rooming house combined, which will be called the "Maison des étudiants argentins." The building will be erected on ground ceded by the university to the Argentinian Foundation, to which the donor has agreed to give 1,000,000 francs. It is thought that, through an official appropriation of the Argentinian government, aid furnished by the Franco-Argentinian committee, and contributions from private individuals in Argentina, it will be possible to erect other such pavilions.

### A Regional Inquiry on Goiter

Dr. Léon Bérard, professor at the Faculté de médecine in Lyons, who has been asked by the Conférence internationale du goitre (to be held in Basle in the spring of 1924) to present a report on the present distribution of goiter in the region of Lyons, recently addressed a pressing appeal to all physicians in the departments of Saône-et-Loire, Ain, Jura, Haute-Savoie, Savoie, Isère, Hautes-Alpes, Basses-Alpes, Drôme, Ardèche, Haute-Loire and Loire, begging them to investigate within their territory as to (1) the relative frequency of endemic, epidemic, familial and sporadic goiter today as compared with fifty years ago; (2) the present relative frequency of exophthalmic goiter and ordinary goiter; (3) the apparent causes of endemic goiter and the varying aspects of such endemics during the last fifty years: nature of the soil, the general conditions pertaining to public hygiene, living conditions, food, drinking water, and various infections, and (4) the action of iodin administered as a prophylactic to children of goitrous parents and to adults and goitrous adolescents before marriage.

### A Memorial to Charles Infroit

A memorial plaque in honor of the roentgenologist Charles Infroit, who died, in 1920, after a long period of suffering, the victim of roentgen rays, has just been placed in the Salpêtrière Hospital, Paris.

## BERLIN

*(From Our Regular Correspondent)*

May 5, 1923.

### German Surgical Congress

To continue the report on the forty-seventh annual meeting of the Deutsche Gesellschaft für Chirurgie: (See Berlin letter, THE JOURNAL, June 9, 1923, p. 1708).

Professor Kümmell, who is recognized as one of the foremost German authorities in the field of surgery of the kidney, discussing "The Surgery of Tuberculosis of the Kidney," stated that this is a chronic, slowly developing, usually unilateral affection, which gradually begins to affect the bladder and the other kidney, often becomes stationary and then later presents severe exacerbations, progresses steadily and ends in death, amidst great suffering to the patient. Through early diagnosis and operation a fatal issue can be prevented. Suspicious early symptoms are: frequent desire to urinate, not yielding to rational treatment; sudden appearance of incontinence of the urine in adults; pain in the ureter, especially in women, and sudden hematuria in younger persons. The manifestations on the part of the kidney are slight. Characteristic is acid urine which contains pus but is sterile. The demonstration of tubercle bacilli in the urine cannot be taken as proof, since tubercle bacilli may be excreted by those who are suffering from pulmonary tuberculosis but not from tuberculosis of the kidney. The subcutaneous tuberculin reaction to large doses (from 5 to 10 mg.) is convincing. Cystoscopy and catheterization of the ureter (the danger from infection is usually considered slight), which may be replaced by the indigocarmin test, may be used to strengthen the diagnosis. Before the operation, the operator must convince himself that the other kidney is reasonably sound; a slight involvement is not necessarily a contraindication. The determination of the freezing point of the blood has always proved a reliable test. Kümmell is an opponent of conservative treatment, as he has not seen any good results from it, nor from tuberculin treatment. The operative removal of the diseased kidney, if the other kidney is sound and the bladder is only lightly involved, furnishes a good prognosis. Also, though the other kidney is slightly affected, if its function is preserved, the operation is indicated. In far advanced cases, nephrotomy or other palliative operations are to be considered. Of 188 unilateral nephrectomy operations, fourteen resulted fatally. Of the 174 remaining patients, 9.2 per cent. died in from six months to ten years. The late mortality up to five years was 5.8 per cent. In a number of cases, pregnancy followed nephrectomy and progressed normally without mishap.

In the discussion, Professor Küttner of Breslau reported on 103 further cases of tuberculosis of the kidney. In 90 per cent. of the cases the bladder was involved; in 40 per cent., the male genitalia, and in 2 per cent., the female genitalia. The immediate mortality from nephrectomy was 8.5 per cent., while the remote mortality, after three years, was 21.8 per cent. A number of lasting cures extending over a period of fifteen years were recorded. Thirty-five per cent. presented completely normal micturition. In half of the cases, after the operation, the tuberculous condition of the bladder cleared up completely. One woman operated on passed through three pregnancies later. Wossidlo of Berlin has of late interpreted the indications for tuberculin treatment more strictly. It is, he contends, indicated only in the early stages (with exact control of cases treated) and in bilateral tuberculosis, with a view to bringing about an operable stage. According to Professor Barth of Danzig, the lasting results are impaired by the fact that tuberculosis of the bladder frequently persists. Only about 25 per cent. of the patients remained cured over a period of nineteen years, but 50 per

cent. were improved. Twenty-five per cent. died the first year. If nephrectomy is performed in time, pregnancy is well borne. Professor Voelcker of Halle warns against exploratory splitting of the kidney. In two of his cases death resulted from miliary tuberculosis. Even though one does not at first find any evidence of disease at the time of the operation, one should have the courage to extirpate the kidney and not look for concealed foci. Professor von Haberer of Innsbruck pointed out that some cases of tuberculosis of the kidney develop and progress under the form of true nephralgias, in which the examination of the function and catheterization of the ureter leave one in the lurch. Professor Casper of Berlin performed extirpation in 170 out of 700 cases of tuberculosis of the kidney and in the last seventy cases the mortality was only 2 per cent. The cases in which no operation was performed progressed usually to a fatal issue. In cases in which, on account of a markedly contracted bladder, catheterization of the ureter is not possible, one can expose the kidneys and apply clamps to the ureters, in order to secure a specimen of the secretion from each kidney. Kümmell warned against exposure of the kidney for the purpose of diagnosis. Severe tuberculosis of the bladder, he stated, is hard to handle. In a large number of cases, however, a cure is effected by extirpation of a kidney. Internal administration of potassium iodid, or local treatment with phenol (carbolic acid) solution, iodoform or mercuric chlorid often alleviate the condition. The general therapy of tuberculosis and the use of tuberculin should also be considered. Finally, resection of the bladder and transplantation of the ureters may need to be performed.

Following these two papers, the functional diagnosis of the kidney in relation to kidney surgery was discussed, the topic being introduced by Professor Rehn of the Lexer clinic in Freiburg. On the basis of extensive animal experimentation and clinical observation, Rehn has worked out a method which makes use of modern colloidochemical researches. It consists of two parts: the determination of the acid and the alkali excretion. To ascertain the acid excretion, 20 drops of hydrochloric acid in 30 c.c. of water are given in the morning fasting. To estimate the alkali excretion, he injects intravenously 50 c.c. of a 4 per cent. solution of sodium bicarbonate. According to the results, Rehn distinguishes five different types, which lack of space prevents describing in detail. During the discussion, Renner was the only one who expressed himself on Rehn's new method. He regarded it as quite usable for the recognition of incipient renal insufficiency.

The third paper was by Professor Küttner, who discussed the subject of prostatic surgery. In hypertrophy of the prostate the formation of the tumor begins in the rudimentary portions of the gland. He distinguishes two types, endovesical (hypertrophy of the middle lobe) and subvesical (hypertrophy of the lateral lobes). In atrophy of the prostate there is no tumor formation. The mortality of the prostatic operation ranged formerly between 13 and 22 per cent., but it is now from 6 to 8 per cent. In establishing the indications for operation, age, social position, rate of enlargement of the prostate, and behavior of the kidney and bladder are to be considered. In case of total retention of the urine, the prostate should not be removed at once but a bladder fistula should first be established, after which the renal function often improves (water test and concentration test for the determination of the kidney function). As to operative methods, Küttner prefers the suprapubic operation as being technically more simple and easier in its after-treatment as compared with the technically more difficult perineal operation, although he admits the latter has its good features. With the perineal operation, rectal injuries and formation of fistulas are more common. He therefore regards the suprapubic operation, in either one or two stages, as the routine procedure. However, if a tumor is suspected, the Voelcker method should be employed. In the two-stage method, the dilation of the bladder fistula is often very difficult; laminaria tents often cause great pain, so that the operator is sometimes compelled to choose the perineal route. A combination of the two methods is to be considered in cancer of the prostate. As compared with prostatectomy, the other operative methods, such as division of the vasa deferentia, are little used. In atrophy of the prostate, the diagnosis of which is reached only by exclusion, we are often concerned with valve formation. Here the Bottini operation, external urethrotomy and division of the obstructing buttress, as practiced often successfully by Küttner, is to be considered. Carcinoma of the prostate, which is often not discovered until the operation, is difficult to remove radically. The lasting results are unsatisfactory. Here radiotherapy enters into the problem. According to Professor Kümmell of Hamburg, the earlier the operation is done, the better the results. A great many deaths are due to renal insufficiency. In order to exclude these cases from operation, one must not rely on one method of examination but must have recourse to several. If kidney function is normal, the one-stage operation may be used. In the two-stage procedure, he was always able to dilate the bladder fistula with laminaria tents. After-treatment consisted of drainage and the application of a self-retaining catheter for twenty-four hours. The perineal method has the disadvantage of frequently causing incontinence of the urine. Professor Voelcker of Halle emphasizes the importance of the blood pressure for the prognosis of the operation. Intestinal injuries, fistulas and incontinence of the urine have never occurred in connection with his operations. He emphasized that there are cases in which the prostate is not to be extirpated from the bladder. Professor Perthes of Tübingen stressed the importance of the clinical picture of atrophy of the prostate, which may often develop a long time before the onset of senescence. The cause of the discomfort is often due to a valve in the neck of the bladder, which prevents the evacuation of the urine. Treatment consists in excision and enucleation of the atrophic prostate, or in dividing the valve, which he successfully carried out in four instances. Professor von Haberer of Innsbruck called attention to the favorable effect of vasotomy as applied to the vasa deferentia; it eliminates the danger of postoperative epididymitis and in some cases the prostatic hypertrophy will retrogress, so that prostatectomy can be dispensed with; it also causes the blood pressure to fall and the patient's general condition improves. He has not lost a case since this preliminary operation was introduced. Against the operation may be urged the fact that the patient is rendered impotent. For the after-treatment of prostatectomy he recommends drainage over a forty-eight hour period.

## Marriages

ELMER FORREST MERRILL, Ann Arbor, Mich., to Miss Helen Gertrude Cliff of Jackson, June 4.

THOMAS ARTHUR JOHNSON to Miss Myrtle Elizabeth Swanson, both of Rockford, Ill., June 6.

NICHOLAS ANTON HERRMANN, Equality, Ill., to Miss Margaret Woods of Chicago, May 12.

CECIL W. CLARK, Newton, Mass., to Miss Sara C. Schlechter of Reading, Pa., April 28.

DANIEL F. HAYES, Chicago, to Miss Marie Keefe of Oak Park, Ill., June 2.

YNGVE JORANSON to Miss Irene Johnson, both of Chicago, June 9.

# Deaths

**William Gage Erving** ✠ Washington, D. C.; Johns Hopkins University Medical Department, Baltimore, 1902; died, May 13, in Gravenhurst, Ont., Canada. Dr. Erving was born in Hartford, Conn., in 1877. In 1904 he was appointed professor of orthopedic surgery at the Georgetown University School of Medicine and the Howard University School of Medicine, Washington, D. C. With Prof. Hiram Bingham, of Yale University, now lieutenant governor of Connecticut, he went to Peru in 1911 as surgeon to the expedition that discovered the Inca city on Machu Picchu. During the World War, Dr. Erving served in the M. C., U. S. Army, in France, with the rank of major. He was on the staffs of the Children's, Providence and Georgetown University hospitals, and a fellow of the American Orthopedic Association, the Washington (D. C.) Surgical Society, the Interurban Orthopedic Club and the Royal Geological Society of England.

**Hiram Eugene McNutt,** Huron, S. D.; Dartmouth Medical School, Hanover, N. H., 1872; for many years secretary of both the state and county medical societies; member of the state board of health; at one time member and secretary of the state board of medical examiners; aged 74; died suddenly, May 24, of heart disease.

**Thomas R. Wright** ✠ Augusta, Ga.; University of Georgia Medical Department, Augusta, 1876; professor of surgery, and at one time dean at his alma mater; proprietor of the Margaret Wright Hospital; on the staffs of the University Hospital, and the Georgia State Sanatorium, Milledgeville; aged 68; died, May 25.

**Nelson W. Bodenbender,** Buffalo; Cleveland University of Medicine and Surgery, Cleveland, 1887; member of the Medical Society of the State of New York; on the staffs of the Deaconess and Homeopathic hospitals; aged 59; was drowned in Seneca Lake, near Waterloo, N. Y., May 26.

**Charles Putnam Pruyn,** Chicago; Rush Medical College, Chicago, 1886; founder, and at one time professor of operative dentistry, Northwestern University Dental School; past president of the Illinois Board of Dental Examiners; aged 68; died, June 10, of paralysis agitans.

**LaWilla Mott Cornelius,** Brooklyn; Bellevue Hospital Medical College, New York, 1891; member of the Medical Society of the State of New York; formerly on the staffs of the Long Island College and Kings County hospitals; aged 64; died, June 3, of chronic nephritis.

**Alice Margaret Fasold,** Pittsburgh; Woman's Medical College of Pennsylvania, Philadelphia, 1920; member of the Medical Society of the State of Pennsylvania; aged 27; was killed, May 31, when the automobile in which she was driving went down an embankment.

**William Thomas Barger,** Cleveland; Starling Medical College, Columbus, 1894; physician to the American Hospital of Paris, France, during the World War, and served in Siberia with the American Red Cross for two years; aged 53; died, May 28.

**Charles M. Hollister** ✠ Pierre, S. D.; University of Pennsylvania School of Medicine, Philadelphia, 1895; physician to the Indian Service Pierre School; aged 56; died, May 18, at the Presbyterian Hospital, Chicago, of pyonephritis.

**Frank Eugene Sleeper,** Sabattus, Me.; Medical School of Maine, Portland, 1870; at one time member of the state legislature; formerly on the staff of the Central Maine General Hospital, Lewiston; aged 76; died, May 2.

**David Heine Levy** ✠ New York; Columbia University College of Physicians and Surgeons, New York, 1901; attending surgeon to the Hospital for Joint Diseases; aged 46; died, May 22, of septicemia and nephritis.

**Arthur U. Williams** ✠ Hot Springs National Park, Ark.; Missouri Medical College, St. Louis, 1878; member of the American Urological Association; aged 67; was found dead in his office, May 21, of heart disease.

**Edward Canizares,** Havana, Cuba; University of Havana, 1918; member of the New York City Department of Health; on the staff of the Riverside Hospital, New York, where he died, April 21, aged 28, of scarlet fever.

**George W. Endicott** ✠ Plainfield, N. J.; Jefferson Medical College of Philadelphia, 1875; for ten years member of the board of health; on the staff of the Muhlenberg Hospital; aged 70; died, May 31.

**William Suvard Blunt,** Waupun, Wis.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1897; aged 51; died, May 25, at St. Agnes' Hospital, Fond du Lac, following an appendectomy.

**Hiram K. Worden** ✠ Westmoreland, N. Y.; Albany (N. Y.) Medical College, 1874; city health officer; for many years member of the school board; aged 73; died suddenly, May 20, of heart disease.

**C. L. Washburn,** Marion, Ill.; Missouri Medical College, St. Louis, 1882; formerly member of the school board; aged 70; died, May 18, at the Holden Hospital, Carbondale, of heart disease.

**John Henry Costello, Jr.,** Boston; Medical School of Harvard University, Boston, 1897; member of the Massachusetts Medical Society; aged 49; died, May 24, following a long illness.

**Gustave Henry Douglas,** Crescent City, Calif.; Harvey Medical College, Chicago, 1904; member of the state legislature; aged 59; died suddenly, March 27, at Sacramento, of heart disease.

**Robert Bruce Johnstone,** Hyattsville, Md.; Hahnemann Medical College and Hospital of Philadelphia, 1887; served as city health officer for several years; aged 68; died, June 1.

**John Thomas Sullivan,** Milwaukee; Marquette University School of Medicine, Milwaukee, 1913; member of the State Medical Society of Wisconsin; aged 41; died, May 26.

**Ledra Heazlit** ✠ Auburn, N. Y.; University of Pennsylvania School of Medicine, Philadelphia, 1897; on the staff of the City Hospital; aged 49; died, May 2, of nephritis.

**Endell N. Leake,** Fremont, Neb.; New York Homeopathic Medical College, New York, 1880; member of the Nebraska State Medical Association; aged 66; died, May 25.

**Lewis Cass Hormell,** Casselton, N. D.; Rush Medical College, Chicago, 1874; Civil War veteran; aged 76; died, May 8, in Chicago, on his way home from Florida.

**John Lawrence May** ✠ Westerly, R. I.; College of Physicians and Surgeons, Baltimore, 1901; aged 50; died suddenly, May 30, of heart disease.

**Charles H. Ayling,** Gridley, Ill.; Northwestern University Medical School, Chicago, 1893; aged 53; died, May 23, of cerebral hemorrhage.

**Hiram Smiley,** Chicago; Pulte Medical College, Cincinnati, 1885; Civil War veteran; aged 83; died, May 25, at Clinton, Iowa, of carcinoma.

**A. Fletcher Haynes,** Huntington, W. Va.; University of Louisville (Ky.) Medical Department, 1891; aged 63; died, June 1, of influenza.

**George Henry Cairnes** ✠ Baltimore; University of Maryland School of Medicine, Baltimore, 1864; aged 85; died, May 28, of senility.

**Ernest Schorr** ✠ Detroit; Medical Department of the University of Wooster, Cleveland, 1882; aged 62; died, May 21, of heart disease.

**Edwin Grant Ogden,** Chicago; New York Homeopathic Medical College and Hospital, New York, 1891; aged 55; died, June 4.

**Henry E. Eldridge,** Richmond, Va.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1895; aged 49; died, May 14.

**Charles Nelson Hart,** Marshfield, Mass.; Homeopathic Medical College of Missouri, St. Louis, 1876; aged 63; died in May.

**Frederick Selden Bloss,** Troy, N. Y.; Albany (N. Y.) Medical College, 1884; aged 65; died, April 7, of cerebral hemorrhage.

**James L. Clark,** Denver; Missouri Medical College, St. Louis, 1886; aged 58; died, May 20, of cerebral hemorrhage.

**George S. Silljacks,** Baltimore; University of Maryland School of Medicine, Baltimore, 1886; aged 63; died, June 1.

**Benjamin F. Hudson,** Montezuma, Ind.; Miami Medical College, Cincinnati, 1857; aged 97; died, May 10, of senility.

**Allen Parker,** Warrensburg, N. Y.; Bellevue Hospital Medical College, New York, 1880; aged 66; died, April 28.

**Albert E. Teague,** Indianapolis; Eclectic Medical Institute, Cincinnati, 1892; aged 65; died, May 23, of heart disease.

**Joseph M. Thurston,** Richmond, Ind.; Physio-Medical Institute, Cincinnati, 1866; aged 82; died, May 23, of senility.

**Jabez John Bagshaw,** Centerville, S. D.; Barnes Medical College, St. Louis, 1895; died, May 1, of heart disease.

**Effenger R. Kline,** Philadelphia; Jefferson Medical College of Philadelphia, 1882; aged 69; died, May 8.

# Correspondence

## "THE DANGER OF PITUITARY EXTRACT"

*To the Editor:*—Through an abstract that appeared in THE JOURNAL (May 12, 1923, p. 1418) our attention has been directed to the article of Pouliot and Truchard, criticizing our article: "The Dangers of Pituitary Extract" (THE JOURNAL, May 21, 1921, p. 1390). Unfortunately, we have not yet been able to secure a copy of the journal containing Pouliot and Truchard's paper; but, assuming that the abstract correctly represents it, we feel that the statements contained in it create an incorrect impression and should not be passed unchallenged.

In the abstract, it appears that the entire basis for the criticism of Pouliot and Truchard consists of the inadequacy of our "case reports" of clinical rupture of the uterus following the employment of pituitary solution. As a matter of fact, the mention of such cases in our paper was merely incidental, and constituted only a portion of the argument against the obstetric use of pituitary solution; consequently, it seems unfair for Pouliot and Truchard to ignore the remainder of our argument. Nevertheless, even if this point is disregarded, our mention of cases of uterine rupture has been so presented, in the abstract at least, as to give an entirely different impression from what was intended.

Many of the cases that we included in our paper were reported in discussions at medical meetings; the details concerning them were meager in the extreme. By their analysis, Pouliot and Truchard arrive at the conclusion that pituitary solution was contraindicated in all but one instance; and they sapiently remark: "Pituitary extracts are dangerous only in the hands of those who do not know how to use them." But who possesses this all-important knowledge? One authority believes that the drug should be used only in the case of multiparas; another contends that only the primiparous uterus can weather the storm; one holds that pituitary solution should be used to force the head into the pelvis and enable the application of low forceps; another believes that it should never be injected until the head is on the perineum. With the constantly changing views regarding indications and contraindications, it is indeed difficult to discover the report of a pituitary catastrophe where, according to some "authority," a contraindication did not exist. Whatever the present accepted contraindications are, the fact remains that, in the hands of supposedly qualified medical men, the obstetric use of pituitary solution has been attended by catastrophe on numerous occasions. Those who, with singular clarity of vision, discern the obvious contraindications after the catastrophe or who evolve new "contraindications" as a result of the catastrophe argue the safety of the drug with as much force as the Christian science healer defends his position by claiming that a "lack of faith" was responsible for the death of a patient with diphtheria.

Since the appearance of our paper, two additional cases of uterine rupture have come to our attention. One of these was reported by Langrock (*Am. J. Obst. & Gynec.* **3**:656, 1922), 1 c.c. of the solution being injected after the expulsion of the placenta. At a recent staff meeting of the Retreat for the Sick in this city, Dr. A. S. Brinkley (this case will be reported in detail in the *Virginia Medical Monthly* by Drs. Brinkley and Martin) reported the case of a quadripara who was attended in labor by a capable and experienced practitioner. When the child's head had actually appeared at the vulva, the patient was given an injection of 5 minims of pituitary solution; the head disappeared and the patient went into collapse. Opening the abdomen revealed that the uterus had performed an almost complete supravaginal amputation on itself.

Doubtless, pituitary enthusiasts will discover "contraindications" in these cases, as they would discover contraindications in the number of unreported cases (and we believe this number is not small) in which uterine rupture and death occur after the use of pituitary solution, but when, in the absence of necropsy, the unfortunate outcome is attributed to some "act of providence."

It would be interesting to secure the views of Pouliot and Truchard on the use of ergot in the early stages of labor. This practice, formerly endorsed by the leading obstetricians, is now almost universally condemned, but we have shown (*Am. J. Obst. & Gynec.* **4**:608 [Dec.] 1922) that pituitary solution is much more likely than ergot to cause persistent uterine contraction, both experimentally and clinically.

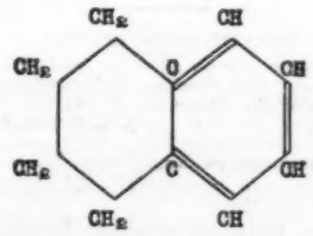
Differing from our French colleagues, we believe that we are justified in renouncing "the *benefits* of organotherapy" obstetrically, not on the basis of a single case, but because it may be shown both experimentally and clinically that pituitary solution is more likely than ergot to cause uterine tetanus, and because the obstetric use of the drug by licensed physicians has been followed by many instances of uterine rupture with fetal and maternal death.

CHARLES C. HASKELL, M.D.,
M. PIERCE RUCKER, M.D., Richmond, Va.

## FORMULA OF TETRAHYDRONAPHTHALENE ("TETRALIN")

*To the Editor:*—In the editorial on the Wassermann tuberculosis reaction (THE JOURNAL, May 19, p. 1456), "tetralin" is stated to be "a naphthalene with four molecules of water of hydration."

"Tetralin," or tetrahydronaphthalene, is produced by the hydrogenation of naphthalene; that is, it is made by the catalytic reduction of naphthalene. It possesses the structural formula:




I hope that this information will make clear that "tetralin" is not a naphthalene hydrate.

W. A. HAMOR, Pittsburgh.
Assistant Director, Mellon Institute of Industrial Research, University of Pittsburgh.

## FOCAL INFECTION—THE SEMINAL VESICLES

*To the Editor:*—During the last two years I have seen a number of men who suffered from toxic fibrositis, patients who obtained temporary relief from acetylsalicylic acid, but who failed to get the expected permanent relief from removal of infected teeth and tonsils, or from the clearing up of other evidently infected areas.

For some years I had recognized that my finger was not long enough to enable me to elicit satisfactory findings concerning the condition of the seminal vesicles, and I had been in the habit of depending on the well recognized genito-urinary specialists for this information. It finally occurred to me that perhaps the physical limitations of these specialists

might similarly be a bar to their efficiency in this respect, and so I sent a number of these patients to a surgeon whom nature had endowed with unusually long fingers. The results have been highly gratifying, many patients who previously had been examined with negative results by different well-trained urologists thus obtaining drainage of hitherto unrecognized pent up infected material, with consequent relief from their fibrositis.

The conclusions I would draw from my experience are that:

1. In quite a number of men patients in whom the removal of recognized focal infections does not give the expected results, a nidus of infection exists in the seminal vesicles.

2. In many instances the physical limitations of even well trained urologists prevent them from recognizing the vesicular infection, and from properly and gently massaging these structures should they discover the infection.

CHARLES MINER COOPER, M.D., San Francisco,

### NEW POLISH PERIODICAL

*To the Editor:*—I have received a letter emanating from the State Epidemiological Institute in Warsaw, Poland, in which I am informed of the creation of a new medical publication, the *Journal of Experimental Medicine*, which will provide a medium for original publications for the Polish scientists, which is now completely lacking. In order to provide a financial basis for the undertaking, one thousand subscribers are required, of which number only 240 are available at present. It is hoped that Polish physicians in the country and also libraries will subscribe to it. Those interested should forward their names and exact addresses to Dr. Casimir Funk, 437 West Fifty-Ninth Street, New York. Medical publications which have Polish physicians among their subscribers please copy.

CASIMIR FUNK, M.D., New York.

## *Queries and Minor Notes*

### PARATHYROID GLANDS

*To the Editor:*—Please give me all of the available information about the parathyroid glands, their function, and especially their action, if any, on calcium metabolism. Please also tell me how one may recognize parathyroid insufficiency. J. C. BURCH, M.D., Alto, Ga.

ANSWER.—A number of significant facts regarding the parathyroid glands have been established during the last two years. The facts are these:

1. Normal dogs, including pregnant females, can be kept alive indefinitely following complete parathyroidectomy. Complete loss of the parathyroid glands is therefore compatible with life.

2. The treatment necessary to prevent fatal parathyroid tetany early after extirpation of the glands can be discontinued after from forty to sixty days.

3. On the appearance of the estrual cycle, however, all the symptoms of acute tetany usually recur.

4. Between the periods of "heat" the animals appear perfectly normal. Under special conditions (e. g., muscular exercise and excitement), such animals may suddenly develop convulsions indistinguishable from grand mal attacks of idiopathic epilepsy.

5. The best evidence available points to the view that parathyroid tetany is due chiefly to toxins elaborated in and absorbed from the gastro-intestinal tract.

6. Two measures have been devised to prevent the tetany or rapidly control it should it occur: The dietary treatment prevents the elaboration of the toxic products in the bowel; the drug calcium lactate, when ingested in large doses, certainly preserves life. Its mode of action is not known with any degree of certainty. For the rapid control of alarming symptoms in an emergency, preparatory to either one or both of the treatments mentioned, nothing excels the free use of Ringer's solution intravenously injected, particularly if preceded by soap-suds enemas.

7. It is not certain at this time whether the low blood calcium in tetany is a cause or an effect of the tetany.

Tetany due to parathyroid deficiency or insufficiency, seen most commonly after operations on or partial resection of the thyroid gland, is characterized by intermittent clonic spasms of the skeletal muscles. Spasticity first of the hands and then of the feet, with clonic twitchings of the individual muscles, precede the spasms. Fibrillations of the skeletal muscles can always be felt and often seen. Tetanic spasms of short duration may occur in severe cases. A tetanic spasm of the diaphragm at the time of a generalized tetanic convulsion usually leads to death from asphyxia in experimental animals. In the intervals between clonic and tetanic seizures (as well as in latent tetany), one finds a marked increase in the electrical excitability of the peripheral motor nerves to a galvanic current (Erb's test); a tetanic spasm in a limb whose main motor nerves are compressed (Trousseau's phenomenon); a spasm or clonic twitching of the facial nerve (Chvostek's sign).

RECENT ARTICLES


Luckhardt and Rosenbloom: The Presentation and Control of Parathyroid Tetany, *Proc. Soc. Exper. Biol. & Med.* **19**: 129, 1921.

Dragstedt: The Relation of the Parathyroid Tetany to Intestinal Bacteria, *Am. J. Physiol.* **59**: 483, 1922.

Luckhardt and Rosenbloom. The Control and Cure of Parathyroid Tetany in Normal and Pregnant Animals, *Science*, July 14, 1922.

Luckhardt and Rosenbloom: The Control and Cure of Parathyroid Tetany in Completely Parathyroidectomized Animals During the Oestrus Cycle, *Science*, Sept. 1, 1922.

Dragstedt, L. R.: The Pathogenesis of Parathyroid Tetany, THE JOURNAL, Nov. 4, 1922, p. 1593.

Luckhardt, A. B., and Goldberg, Benjamin: The Preservation of the Life of Completely Parathyroidectomized Dogs by Means of the Oral Administration of Calcium Lactate, THE JOURNAL, Jan. 13, 1923, p. 79.

Salvesen: Studies on the Physiology of the Parathyroids, *Proc. Soc. Exper. Biol. & Med.* **20**: 204, 1923.

Dragstedt: The Pathogenesis of Parathyroid Tetany, *Am. J. Physiol.*, February, 1923.

Luckhardt and Blumenstock: Additional Observations on Completely Thyroparathyroidectomized Dogs, *Am. J. Physiol.*, February, 1923.


### KLIEG, OR CINEMA, EYE

*To the Editor:*—Can you give references to the literature or any information on "Klieg eye" (a condition of inflammation in the eye following the exposure to bright lights in the taking of moving pictures)?

M. W. PERRY, M.D., Washington, D. C.

ANSWER.—The so-called "Klieg eye" or "cinema eye" results from repeated continuous exposure to the intense lights used in photographing interiors in the moving picture industry. Originally, the main lights used were the Klieg lights, a twin arc using 25 amperes, encased in a tin shield lined with aluminum paint, and manufactured by Kliegel Brothers of New York. In these lights, the so-called ultraviolet carbons are used with the claim that they produce a light rich in photographic rays. We do not know whether any measurements have been made to determine whether or not such light is richer in the ultraviolet content than the light from the ordinary carbon arcs. Certain it is that the same ophthalmic picture is produced by the other lights used in the industry, such as the Cooper-Hewitt.

The condition of the eye that results from continued exposure to the light is apparently one of burn, edema of the lids, some superficial conjunctival injection, and a sensation of heat, accompanied by lacrimation and photophobia. Elimination of the light and rest are followed by complete relief of the condition in from two to four days.

This subject was discussed rather fully about two years ago at a meeting of the Berlin Ophthalmologic Society, and again in an article by Chappe (*Ann. d'ocul.* **157**:425, 1920; *Arch. d'opht.* **5**:37, 1920). It has never been completely determined whether the irritation is due to the excess of ultraviolet rays, or to an excess of infra-red rays, or to an excessive intensity. In all probability, the former is the exciting cause.

### SEVENTEEN YEAR LOCUSTS

*To the Editor:*—In this section of southwest Virginia, we are having a visitation of the seventeen year locusts. Is there any basis for the popular belief that these locusts poison, by their excretions, vegetables, fruits, berries, etc., and that the drinking of water coming from exposed reservoirs, where their dead bodies may contaminate the supply, is dangerous? I see that locusts are used as a food.

THOMAS J. TUDER, M.D., Exeter, Va.

ANSWER.—Apparently there is no justification for the belief that the excretions from the seventeen year locust (*Cicada septemdecim*) render foods poisonous. At least we do not find any records of poisoning from such sources. Drinking water contaminated by the bodies of dead locusts is not more poisonous than that from other decaying animal matter.

# Medical Education, Registration and Hospital Service

## COMING EXAMINATIONS

ALABAMA: Montgomery, July 10. Chrm., Dr. Samuel W. Welch, Montgomery.

ARIZONA: Phoenix, July 3. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, July 9-12. Sec., Dr. Charles B. Pinkham, 908 Forum Bldg., Sacramento.

COLORADO: Denver, July 3. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: New Haven, July 10. Sec. Eclectic Board, Dr. James E. Hair, 730 State St., Bridgeport. Sec. Homeo. Board, Dr. E. C. M. Hall, 82 Grand Ave., New Haven.

CONNECTICUT: Hartford, July 10-11. Sec., Dr. Robert L. Rowley, 79 Elm St., Hartford.

DELAWARE: Wilmington, June 19-21. Sec., Dr. P. S. Downs, Dover.

DISTRICT OF COLUMBIA: Washington, July 10-12. Sec., Dr. Edgar P. Copeland, 104 Stoneleigh Court, Washington.

HAWAII: Honolulu, July 9-12. Sec., Dr. G. C. Milner, 401 Beretania St., Honolulu.

ILLINOIS: Chicago, June 18. Supt., Mr. V. C. Michels, Springfield.

INDIANA: Indianapolis, July 10. Sec., Dr. Wm. T. Gott, Crawfordsville.

KANSAS: Kansas City, June 19. Sec., Dr. Albert S. Ross, Sabetha.

MAINE: Augusta, July 10-11. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MARYLAND: Baltimore, June 19-22. Sec., Dr. J. McP. Scott, 141 W. Washington St., Hagerstown.

NEW JERSEY: Trenton, June 19-20. Sec., Dr. Alexander MacAlister, State House, Trenton.

NORTH CAROLINA: Raleigh, June 25-29. Sec., Dr. Kemp P. B. Bonner, Raleigh.

NORTH DAKOTA: Grand Forks, July 3-6. Sec., Dr. G. M. Williamson, 860 Belmont Ave., Grand Forks.

OKLAHOMA: Oklahoma City, July 10-11. Sec., Dr. J. M. Byrum, Shawnee.

OREGON: Portland, July 3. Sec., Dr. Urling C. Coe, Stevens Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 10-14. Preliminary Examiner, Mr. C. D. Koch, 422 Perry Bldg., Philadelphia.

RHODE ISLAND: Providence, July 5-6. Sec., Dr. B. U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 26. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

SOUTH DAKOTA: Deadwood, July 17. Dir., Dr. H. R. Kenaston, Bonsteel.

TEXAS: Austin, June 19-21. Sec., Dr. T. J. Crowe, Dallas County Bank Bldg., Dallas.

UTAH: Salt Lake City, July 5. Dir. of Regis., Mr. J. T. Hammond, State Capitol, Salt Lake City.

VERMONT: Burlington, June 20-22. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 19-22. Sec., Dr. J. W. Preston, 720 Anchor Bldg., Roanoke.

WASHINGTON: Seattle, June 19. Sec., Mr. Wm. Melville, Olympia.

WEST VIRGINIA: Martinsburg, July 10. Sec., Dr. W. T. Henshaw, Charleston.

WISCONSIN: Milwaukee, June 26-28. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

### Arizona January and April Report

Dr. Ancil Martin, secretary, Arizona Board of Medical Examiners, reports that five candidates were licensed by reciprocity at the meeting held at Phoenix, Jan. 2, 1923. The following colleges were represented:

| College | LICENSED BY RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| Keokuk Medical College of Physicians and Surgeons | | (1907) | New Mexico |
| University of Michigan Medical School | | (1899) | Michigan |
| Washington University Medical School | | (1908) | Oklahoma |
| Medical College of South Carolina | | (1919) | S. Carolina |
| National School of Medicine, Mexico | | (1917)* | Mexico |

* Graduation not verified.

Dr. Martin also reports the written examination held at Phoenix, April 3, 1923. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the two candidates examined, 1 passed, and 1 failed. Seven candidates were licensed by reciprocity. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| University of Nebraska College of Medicine | | (1921) | 87.5 |
| | FAILED | | |
| Hahnemann Medical College and Hospital of Chicago | | (1921) | 66.4 |

| College | LICENSED BY RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| Northwestern University Medical School | | (1903) | Oklahoma |
| Keokuk Medical College | | (1908) | Iowa |
| Louisville Medical College | | (1905) | Texas |
| St. Louis University School of Medicine | | (1905) | Missouri |
| University of Nebraska College of Medicine | | (1910) | Nebraska |
| Albany Medical College | | (1909) | New York |
| Medical College of South Carolina | | (1906) | S. Carolina |

### Connecticut March Examination

Dr. Robert L. Rowley, secretary, Connecticut Medical Examining Board, reports the written examination held at Hartford, March 13-14, 1923. The examination covered 7 subjects and included 70 questions. An average of 75 per cent. was required to pass. Of the 14 candidates who took the examination, 7 passed, and 7 failed. Four candidates were licensed by special exemption. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| George Washington University | | (1922) | 84.8 |
| Indiana Medical College | | (1907) | 84.2 |
| Harvard University | | (1921) | 86.6 |
| Tufts College Medical School | | (1922) | 79.4 |
| Columbia Univ. College of Physicians and Surgeons | | (1914) | 76.6 |
| University and Bellevue Hospital Medical College | | (1920) | 90 |
| University of Vienna, Austria | | (1920)* | 78.8 |
| | FAILED | | |
| College of Physicians and Surgeons, Boston | | (1908) | 55 |
| University of Vermont | | (1899) | 42.3 |
| National University of Athens, Greece | | (1918)* | 69.6 |
| University of Budapest, Hungary | | (1912) | 55.8 |
| University of Naples, Italy | | (1920)* | 67.1 |
| University of Moscow, Russia | | (1917)* | 65.3 |
| University of Valencia, Spain | | (1916)* | 62.8 |

| College | SPECIAL EXEMPTION | Year Grad. |
|---|---|---|
| Johns Hopkins University | | (1920) |
| Harvard University | | (1918) |
| Columbia University College of Physicians and Surgeons | | (1911) |
| McGill University | | (1905) |

* Graduation not verified.

### Idaho January and April Report

Mr. Harry L. Fisher, director, Bureau of License, Idaho State Board of Medical Examiners, reports the written examination held at Boise, April 4-5, 1923. The examination covered 11 subjects and included 86 questions. An average of 75 per cent. was required to pass. One candidate was examined and passed. Four candidates were licensed by reciprocity. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| Barnes Medical College | | (1904) | 76 |

| College | LICENSED BY RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| College of Medical Evangelists | | (1920) | California |
| Cooper Medical College | | (1884) | Montana |
| Northwestern University Medical School | | (1906) | Oregon |
| Harvard University | | (1921) | Utah |

### Wisconsin January Examination

Dr. J. M. Dodd, secretary, Wisconsin State Board of Medical Examiners, reports the written and practical examination held at Madison, Jan. 9-11, 1923. The examination covered 19 subjects and included 100 questions. An average of 75 per cent. was required to pass. Eight candidates were examined, all of whom passed. Eleven candidates were licensed by reciprocity, and 9 candidates were licensed by endorsement of credentials. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| Bennett Medical College | | (1915) | 76 |
| Chicago College of Medicine and Surgery | | (1915) | 79 |
| Harvard University | | (1919) 85, (1921) | 88 |
| Detroit College of Medicine | | (1891) | 75 |
| University of Pennsylvania | | (1922) | 84 |
| University of Innsbruck, Austria | | (1919)* | 83 |
| University of Odessa, Russia | | (1915)* | 86 |

| College | LICENSED BY RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| Rush Medical College | | (1917), (1922, 2) | Illinois |
| University of Illinois | | (1922) | Illinois |
| University of Minnesota Medical School | | (1922, 2) | Minnesota |
| Washington University | | (1919) | Missouri |
| Columbia University | | (1919) | Minnesota |
| Woman's Medical College of Pennsylvania | | (1920) | Ohio |
| Meharry Medical College | | (1921) | Arkansas |
| University of Berlin, Germany | | (1890) | Illinois |

| College | ENDORSEMENT OF CREDENTIALS | Year Grad. | Endorsement with |
|---|---|---|---|
| Loyola University | | (1916, 2) | U. S. Army |
| Rush Medical College | | (1914), (1917) | U. S. Army |
| Harvard University | | (1900) | U. S. Army |
| University of Minnesota Medical School | | (1916) | U. S. Army |
| John A. Creighton Medical College | | (1916) | U. S. Army |
| University of Oregon | | (1914) | U. S. Army |
| University of Pennsylvania | | (1914) | U. S. Army |

* Graduation not verified.

# Book Notices

DER KÜNSTLICHE PNEUMOTHORAX. Von Ludwig von Muralt. Second edition. Paper. Price, $2. Pp. 150, with 53 illustrations. Berlin: Julius Springer, 1922.

This describes von Muralt's technic, his successes and failures, and his philosophical considerations of the subject of artificial pneumothorax. As far as we are aware, few works have attempted to cover this field. The great part of our written knowledge lies scattered in divers articles, and has not been collected and classified. This book, therefore, fills a need. The author has attacked his problem with scientific care for accuracy, and with an energy that spares no detail. From the review of the literature in the first chapter —which is not a review in the usual sense of the word because von Muralt, being a pioneer, could record rather than be forced to review—to the index, which is much more complete than we are accustomed to see in German literature, a conscientious effort has been made to note whatever might be of practical interest in relation to pneumothorax. Von Muralt fills with nitrogen. He first explores with his apparatus containing oxygen, and, when satisfied that the pleural cavity has been entered, changes to nitrogen. In America, air is generally used. This is somewhat simpler than gas, and seems about as effective. Von Muralt's technic may appear more complicated than necessary. While the book is to be commended, we should prefer, for transplantion, a work a little less detailed in some parts and a little more forceful in the emphasis of the salient features.

EXERCISE IN EDUCATION AND MEDICINE. By R. Tait McKenzie, M.D., LL.D., Professor of Physical Education and Physical Therapy and Director of the Department of Physical Education, University of Pennsylvania. Third edition. Cloth. Price, $5 net. Pp. 601, with 442 illustrations Philadelphia: W. B. Saunders Company, 1923.

Those familiar with the previous editions of this book will welcome the new edition, in which the work has, indeed, been "thoroughly revised." The chief differences between the present and previous editions will be found in connection with exercise as a test, and in the treatment of diseases of the circulation, in which an extensive experience during the war with the so-called "soldier's heart" has given the author still greater confidence in the value of exercise in these conditions than he dared to express before. It has been found that "murmurs, especially systolic, were almost valueless as a basis for prognosis. . . . Displacement of the apex was an untrustworthy guide. . . . Reliance was placed on distress, rapid action with slow return to normal, and precordial pain after exercise. Exercise proved to be the only sound clinical test of the heart's ability to perform its work. It was shown that irregularities and intermittence are not signs of heart disease and do not incapacitate, except in that very disorderly type which does not disappear when the heart is accelerated during or immediately following exercise. This is due to the fibrillation of the auricles and is a serious condition happily rare [in military practice, no doubt, but not in that of the internist or general practitioner] and easily recognized. . . . It was found that digitalis has a constantly adverse effect on the symptoms, and it was discontinued." The latter statement is in line with the modern view regarding the special efficiency of digitalis in auricular fibrillation, in which vigorous exercise is not well borne and digitalis very helpful. For very sane and sensible advice regarding the exercise treatment of heart patients, even when they are confined to bed, the reader must be referred to the book. Another addition, occasioned by the pathetic contribution of the war maimed and crippled, has been the development of new and simple devices for muscular reeducation; and those that have proved their value in the great hospitals of the army and navy are described and pictured. The only criticism that can be found is that already stated in the review of the first edition (THE JOURNAL, Jan. 8, 1910, p. 154), that there is danger of the lay physical culturist considering himself competent to prescribe and apply exercise in the treatment of various conditions or diseases. That this is not the case is not sufficiently stressed by the author. However, physicians have themselves to blame when, because of their lack of interest in this important branch of therapeutics, lay enthusiasts invade this field, helping many and harming a few. The remedy for this condition is to institute courses in physical therapy in our medical schools in which medical students can at one and the same time be given the educational and hygienic benefits of gymnastics, while being taught their therapeutic application. Such a department in a medical school might also train nonmedical teachers in physical education, of whom there exists a dearth in this country, occasioned by the rapidly growing appreciation of the value of physical training as a result of the revelations of preventable disability brought out by the draft.

INVESTIGATIONS INTO THE OCCURRENCE AND CLASSIFICATION OF THE HAEMOGLOBINOPHILIC BACTERIA. By Martin Kristensen, Chief of Department at the State Serum Institute, Copenhagen. Paper. Pp. 272, with illustrations. Copenhagen: Levin & Munksgaard, 1922.

This monograph contains an excellent historical review of work on the hemoglobinophilic bacteria, and a detailed account of the author's investigations of these organisms. There is an extensive bibliography. In the section on comparison of the Pfeiffer bacillus with other hemoglobinophilic bacteria, the author has missed the important differential character of nitrate production, discovered by Jordan and confirmed by Stillman and Bourne. River's work, pointing to the occurrence of a definite variety in meningitis, is also overlooked. On the whole, however, the review contains a very fair and complete statement of our knowledge of the Pfeiffer bacillus and related organisms at the present time. The author concludes, from his own work, that there are some strains that must be classed as Pfeiffer bacilli, although the satellite phenomenon is poorly developed, or completely absent. In accordance with the work of several observers in this country, identical agglutinative varieties were rarely found in cases of fatal influenzal pneumonia in the same epidemic. The author concludes: "From my own experience and that of others, . . . in all probability Pfeiffer's bacillus is not to be looked upon as the primary specific virus of influenza."

A TEXT-BOOK OF OBSTETRICAL NURSING. By Alice Weld Tallant, A.B., M.D., Professor of Obstetrics, Woman's Medical College of Pennsylvania. Cloth. Price, $2.25. Pp. 291, with 116 illustrations. Philadelphia: Lea & Febiger, 1922.

This small volume should prove to be enjoyable as well as helpful to all nurses who practice this branch of their profession. Dr. Tallant has stated the subject matter in a clear and concise manner, and in her brevity has emphasized the important points in each subject. The book is logically divided into ten chapters. The paper is of good quality, the print fairly large, and the text free from errors. It is amply supplied with illustrations which have been judiciously selected from standard works, such as those of Bumm and Cragin. Each subject is epitomized, and for the most part represents the accepted views of the day. The description of sterilization must be criticized. On page 222, under the caption of cesarean section, the author properly states the occasional necessity of sterilizing the patient after the delivery. "This is usually done by tying each tube in two places with linen thread and cutting between the ties." The foregoing quotation from the text should be stricken out, as all obstetricians know that pregnancy has occurred shortly after such treatment. The accepted procedure today is cornual excision of the tubes.

CUNNINGHAM'S TEXT-BOOK OF ANATOMY. Edited by Arthur Robinson, M.D., F.R.C.S., Professor of Anatomy, University of Edinburgh. Fifth edition. Cloth. Price, $11. Pp. 1,577, with 1,111 illustrations. New York: William Wood & Co., 1923.

This textbook has long been a standard guide for students in anatomy. In the present edition several sections have been rewritten, notably those on the ductless glands and on the peripheral nervous system. Many of the sections have been entirely recast, and there are numerous new illustrations. One of the especially noteworthy features is the extensive index of more than 100 pages, which makes reference to the vast amount of anatomic knowledge contained in the book relatively simple.

# Miscellany

## THE MAKING OF WILLS BY PERSONS IN EXTREMIS*

FREDERICK A. FENNING, LL.M.
Member of the Bar of the District of Columbia
WASHINGTON, D. C.

The active professional man has always found that some knowledge of other callings is essential to obtaining a good measure of success in his own work. The physician, the lawyer, the engineer all find the points of contact, the instances when it is useful to have at least some general idea of the underlying principles and the accepted practices of the other professions.

The drafting of wills is a function of the lawyer, but this is one of the contact points on which the physician should have general knowledge. In this paper I shall consider the general knowledge which a physician should have to enable him to draft a will in emergency and to enable him to determine whether he will witness a will of a moribund person and, having done so, be able to justify his act.

With respect to the average patient, there is sufficient time for the physician to recommend that a lawyer be called, if the making of a will is deemed desirable or necessary. There are, however, the so-called deathbed cases, which require prompt action and which do not permit of obtaining the advice that otherwise would be secured. Such a situation may confront the physician practicing in a country district, and it may as readily present itself to the city physician while on vacation in a remote and sparsely settled section. Blackstone says in this connection, "It would be useful if the medical attendant were acquainted with at least the formal part of executing wills; in the moment of danger and distress when all around the bed of death are confused with fear or overwhelmed with affliction, the physician, probably a confidential friend, whose duty and habit insures self-possession, may be the only person competent to advise."

While the knowledge on the part of the physician should extend, as just quoted from Blackstone, to "at least the formal part of executing wills," it is highly desirable also that the physician have a general idea as to the requirements entering into the making of a valid last will and testament. So many cases are constantly arising which involve the construction of wills and the mental capacity of testators that the physician may at first blush regard the requirements of a valid last will and testament as highly technical. It is probable that such an understanding is due to the use of legal phraseology. These requirements, however, are not highly technical, and, indeed, they can be understood very readily by men outside the legal profession.

By far the largest number of will contests turn on questions of fact, such as whether or not there was undue influence and whether or not there was mental capacity; and do not grow out of any alleged informality in the preparation or execution of the will. The number of wills, however, which are found to be improperly drawn or improperly or insufficiently executed, is larger than it should be. Accordingly, the physician who advises in the execution of a will or who witnesses one should be somewhat conversant with the general essentials of such a document. Moreover, he should endeavor to satisfy himself that there has been no undue influence and that there is testamentary capacity. As a usual thing, the witnesses to a will do not, at the time, concern themselves with the question as to whether or not undue influence has been exercised. The medical man who acts as such witness will do well, for reasons which will be elaborated as we proceed, to satisfy himself on this point.

*Read before the Medical Society of the District of Columbia, April 25, 1923

### ESSENTIAL REQUIREMENTS

Let us, then, first consider what a will is and the essentials that go to make a valid last will and testament. A will is a disposition of property to take effect on or after the death of the person making the will. The right to make a will of real estate is not a common law right, but has grown up under the statutes of the various states and, of course, the requirements in each jurisdiction are fixed by the statutes of such jurisdiction. The fundamental requirements do not vary. The testator or testatrix must be of sufficient age. This, in the District of Columbia, for the purpose of will making, is 21 years for a male and 18 years for a female. The instrument must be signed by the testator or by some other person by his request and by his direction, and it must be so signed in the presence of the attesting witnesses and they must affix their signatures in the presence of the testator and in the presence of one another. The instrument must be dated on the date of its execution and it must be read by or to the testator. As to the number of witnesses, the general requirement is for two, but some jurisdictions require three witnesses. The person named as executor in the will should not act as an attesting witness, nor should any person act as witness who may be a beneficiary or legatee under the will. The testator must not be under duress, must not be subject to undue influence, and must have sufficient mental capacity to understand the full nature of the instrument and its contents; and he should inform the witnesses that it is his last will and testament and that he wishes them to sign as attesting witnesses.

### TESTAMENTARY CAPACITY

Having described, in brief, the essential requirements for the making of a valid last will and testament, we proceed with a discussion of the particular question on which the medical man should satisfy himself with respect to the wills of persons in extremis. The medical man need have no great difficulty as to the general requirements as just discussed. His real difficulty will be with the question whether the testator has what the law calls "testamentary capacity." It has been said that testamentary capacity means the ability to make *a* will, not the ability to make a particular will in question. This means, of course, that the testator must have a somewhat comprehensive idea of the essentials which enter into the making of a disposition of his property to become effective after death. He should know, for example, that an attempt to disinherit a wife cannot bar her of dower rights. He should be able, on being questioned, to defend and justify the disposition that he is undertaking to make in the will as against other seemingly reasonable and plausible dispositions. Every testator has the opportunity to leave his estate to a variety of persons in various amounts and under an almost endless number of conditions if he so desires. His will is an indication and a mandatory expression of the selection that he has made, both with respect to who shall be the beneficiaries of his estate and in what amount and manner they shall inherit. The explanation that he gives as to the selections he has made and as to the amounts and conditions may at once strike the questioner as logical and in every way reasonable; on the other hand, they may create a suspicion, if not clearly indicate a mental condition which has been imposed on by designing persons.

In the making and execution of the average will, its terms are known to only the testator and the counselor who drafts the instrument. It is not required nor is it usually the fact that the witnesses have any knowledge as to the disposition of the estate as directed in the instrument. However, for the reasons more fully set forth in this paper, if a physician

entertains doubt as to testamentary capacity, he can very properly decline to witness the document until he has read its contents. With respect to a will made in extremis, the surrounding circumstances are such that it is highly essential that medical men, when asked to witness such a paper, interrogate the testator, not only for the purpose of ascertaining his mental condition and of ascertaining whether there is undue influence, but also to determine the extent to which the testator can justify the disposition of his estate as provided by the will. To do this, the careful medical man will possess himself of as much information as to family history as is available and he will privately interrogate the testator with respect to the contents of the will about to be executed. No one is obliged to witness a will simply because he has been asked to do so, and the physician, if he is wise, will thoroughly satisfy himself along the lines as indicated before he will witness such a paper.

Numerous so-called "tests" for testamentary capacity have been laid down from time to time. In Hadfield's case, Lord Erskine, in 1800, held that the "delusion test" was the proper method of determining sanity or insanity of a testator. It was said that if the testator had a delusion he lacked testamentary capacity; otherwise he was competent. This has long since passed into the discard. Other tests have arisen and from time to time have been followed.

Clouston, one-time medicolegal authority, advised that the physician ascertain: "First, 'Is the patient free from the influence of drink or drugs and in his usual state?' Then, 'Does he know the nature of the act that he is to perform and the effect of the document he is to sign?' The next thing is to find out that he is not influenced in the doing of it or in regard to any of its provisions by insane delusion or by an insane, morbidly enfeebled state of mind. Then ascertain if there is infacility of mind from bodily weakness or any other cause or undue influence being exercised from without. The next thing is to make the intending testator go over the particulars of the disposition he wishes to be made, without prompting or suggestion or leading questions. And he should be made to do this twice, with certainly a quarter of an hour's interval between the two statements."

The Supreme Court of the United States has said that "one may be insane to the extent of being dangerous if set at liberty and yet have sufficient mental capacity to make a will."

I make bold to advance another test to be used by the physician in seeking to determine whether one possesses testamentary capacity. Mercier said, a number of years ago, that "the highest faculty of mind is the ability to choose." In making a last will and testament, a testator is simply undertaking to record in legal form his choice with respect to the disposal of his wordly goods. If the physician is given a clear statement of facts and then applies to such facts the choice as indicated by a testator, he will be able to arrive at an independent conclusion which will be based on his own best judgment. In other words, he may then determine, at least to his own satisfaction, whether the choice as made by the testator appears to be a rational one.

In the last analysis, it boils down to this: The physician must make such a test as takes into consideration the normal mental condition and habits of the particular individual who is about to make a will and then determine to what extent, if any, the illness of this particular individual has influenced him in the making of this particular will and whether in the making of the will he has been subjected to undue influence.

The fact that a patient is desperately ill will naturally make the subscribing witnesses cautious, but too much weight must not be given to the mere fact that the patient is in extremis. A recent New York case (*In re Cohen*, 176 N. Y. S. 689) distinctly held that there was no presumption against a deathbed will. Likewise it has been held in Georgia (*Hall* v. *Hall*, 18 Ga. 40) that one in a dying condition has testamentary capacity if, when his attention is aroused, his mind acts clearly and with discrimination. The particular form of disease does not seem to be of itself a controlling factor. For instance, in the matter of Kiedaisch (13 N. Y. Sup. 255), a paretic was held to have testamentary capacity; and in the matter of Loewenstine (2d Misc. N. Y. 323), which, it will be noted, is also a New York case, a paretic was held not to have testamentary capacity. Of course, the distinguishing factor was the individual characteristics of the particular cases, and so we find epileptics declared both competent and incompetent, the decision in one case (*Matter of Rapp Lee*, 66 Hun N. Y. 558) indicating that great weight was apparently given to the fact that the testator, though an epileptic, did not execute the will "during a fit."

In the case of *Robinson* v. *Duvall* (27 D. C. Appls. 535), in which the decision of the trial court was affirmed by the court of appeals, and the latter was in turn affirmed by the Supreme Court of the United States, the court of appeals discussed at some length the particular weight to be given to the evidence of a subscribing witness to a will. The trial court had instructed the jury that "the testimony of such witnesses, other things being equal, is entitled to more weight" than that of other persons not present at the execution of the will. In endorsement of this, the court of appeals said, "The attesting witnesses are considered in the law as placed round the testator to protect him against fraud in the execution of his will and to judge of his capacity, and it is their duty to inform themselves of his capacity at the very time he was executing the will." The court further pointed out that the subscribing witnesses had opportunity to form an opinion of the testator's capacity "at the moment when he executed his will."

In view of this language of an appellate tribunal, some consideration should be given to the desirability of having a family physician act as a witness to a last will and testament, and it would certainly seem that such a witness might form a more favorable opinion as to the testator's capacity at the moment when he executed his will than a nonprofessional witness. It can be conceived that a testator can go too far in this direction; for example, should a testator deliberately invite three alienists to be the witnesses to his will, it is likely that on the will's being offered for probate, the question would be raised as to why three such experts appeared as witnesses. Contention might be made that a person admittedly of sound and disposing mind would not adopt such a course and that the alienists had been used as witnesses because of the questionable mental condition of the testator and because of an anticipated attack on the instrument. It can be readily understood that such objection would have little basis with respect, for example, to the will of a physician employed in a hospital for the insane who asked some of his brother physicians to act as witnesses. The contention might be made, however, with considerable force respecting the will of a layman or one not immediately or intimately associated with the witnesses.

### THE MEDICAL WITNESS

We come now, very naturally, to a consideration of the prohibition placed by statutes of many jurisdictions on the medical witness. In the District of Columbia, this prohibition is contained in Section 1073 of the Code, which reads:

> In the Courts of the District of Columbia no physician or surgeon shall be permitted, without the consent of the person afflicted, or of his legal representatives, to disclose any information, confidential in its nature, which he shall have acquired in attending a patient in a professional capacity and which was necessary to enable him to act in that capacity: Provided, That this section shall not apply to evidence in criminal cases where the accused is charged with causing the death of or inflicting injuries upon a human being, and the disclosure shall be required in the interests of public justice.

In substantially the same form, this prohibition is very generally incorporated into the statutes of the various states.

It will be observed that this prohibits a physician from testifying as to information gained in a professional capacity and which was necessary to enable him to act in that capacity. The single exception is that such testimony can be given with the consent of the patient or his legal representatives. The question arises whether, the patient being dead and no legal representative of his estate having been appointed, a physician who witnessed the will of the deceased can give his testimony as to the execution of the instrument. It has been said on good legal authority (*In re Mullin*, 110 Calif. 252) that the physician is competent to testify in such a case. This is perfectly logical, as the patient undoubtedly waives his privilege and gives his implied consent to such testimony when he asks his physician to witness a will.

There is in the District of Columbia and also in many of the states a statute providing that bequests to ministers, public teachers and religious sects or orders are invalid unless they be made more than one month (and in some instances a longer period) prior to the death of the testator. The reason for such statutes is clear, as it is readily recognized that one approaching death is apt to entertain feelings toward persons of the classes described which he would not entertain or be influenced by were he in good state of health. It is not usual that such statutes include the testator's physician or medical advisers. It is important, however, that the physician in attendance on a patient, particularly a patient in extremis, have very clearly in mind the advantageous position that he occupies and that he give heed to the fact that a bequest to him from such testator will be under suspicion. While such a gift is not bad per se, nevertheless the burden in such a case is on the physician to show that he did not take advantage of his position and that the bequest was made without the patient's being subjected to influence from any source; that it was a reasonable bequest and was not due to any sentimental idea of the patient growing out of his relations with one in attendance on his severe illness.

It will be recalled that, at the outset of this paper, attention was called to the desirability of calling a lawyer for the making of a last will and testament whenever time would permit. It is important that emphasis be given to this feature. It has been commonly believed by many persons that anyone of intelligence can draft a will. Many small stationery establishments still continue to sell blank forms of wills. So far as some of these printed forms apply to a particular situation, they can safely be followed. The folly of the use of such forms by persons not trained in drafting wills lies in the fact that no general form can meet any considerable number of cases. Physicians know that, with respect to two patients showing identical symptoms, the treatment in one case is not necessarily the precise treatment in the other case, and this is due to the differences in the general organic make-up of the individuals. These differences are always considered by the physician, and his treatment is dictated not only by the symptoms of a sick man, but also by an intelligent appreciation of the condition of the particular individual under treatment. In the drafting of a last will and testament, the lawyer must know the provisions of law with respect to the descent of property in every jurisdiction in which the will may be operative; he must know the rights of dower and curtesy; he must know the provisions of law with respect to trusts, and it is of the highest importance that he should know the United States estate tax laws and the estate and inheritance tax laws of all the states in which the property of the testator is located and in which corporations in which he holds stock or registered bonds are incorporated. It will readily be seen that this makes necessary the consideration of a particular state of facts as applied to a particular estate, just as the facts pertaining to the physical condition of a particular individual must guide the physician in any treatment that is prescribed for that particular individual.

A testator who, for reasons of economy, prepares his will on a blank form or prepares it with the advice of an unqualified person simply invites trouble for his widow and children or such others as may be designated as his beneficiaries. Such a practice, however, is not always dictated by reasons of economy, for many persons surround the making of such an instrument with the very highest degree of secrecy. Such an individual believes that he is the only person who should have any knowledge concerning its provisions. Such persons, however, must consult physicians from time to time, and on such occasions make known their physical condition. They must know that such information as their physician receives is protected in confidence; and, by the same token, the information imparted by client to lawyer is guarded with the same professional secrecy. As a matter of fact, information given to a lawyer for the drafting of a will usually is forgotten after the will is made and executed, and it is the experience of many lawyers when later called on by a client for the purpose, for example, of making a codicil to a will previously executed, to find that they have entirely forgotten the provisions of the original instrument.

However, as was pointed out in the beginning of this paper, there are occasions when a lawyer cannot be called for the drafting of a will, and if in the course of the professional experience of a medical man he finds it necessary to assist in the drafting of such an instrument, he should at least have a comprehensive idea of the service which he is to perform. And with respect to wills drawn by legal men for persons in extremis, the physician who witnesses such a paper will do well to give some attention to the requirements of the situation in order that he may in the future justify and defend his course.

1420 New York Avenue.

---

## OSTEOPATHS HELD TO BE "REGULAR PRACTICING PHYSICIANS" AND AS SUCH EXEMPT FROM PODIATRY LAW

In *Howerton* v. *District of Columbia*, the court of appeals of the district has just decided that an osteopath is a regular practicing physician and as such is exempt from the provisions of the law governing podiatry. The plaintiff in error, Howerton, who was not a licensed physician nor an osteopath (there being no provision in the laws of the district for licensing osteopaths), and who apparently admitted that he had practiced osteopathy in the district for twelve years, was charged with unlawfully practicing podiatry. Podiatry is defined by an act to regulate the practice of podiatry, approved May 23, 1918, as "the surgical, medical or mechanical treatment of any ailment of the human foot, except the amputation of the foot or any of the toes; and also the use of an anesthetic other than a local one." Howerton claimed that as an osteopath he had treated the feet of his patients in the District of Columbia since 1909, whenever he found it necessary to do so. In the case at bar he had treated a "sprained foot" by manipulation with his bare hands, and later by using a rubber nodule held in the palm of the hand by means of a leather band. The court found that the method used was one common among osteopaths, and that in using it Howerton was practicing osteopathy, not podiatry. The court pointed out, however, that if Howerton could be said to have practiced podiatry in the present instance, then his practice of the same methods before the passage of the podiatry act was likewise the practice of podiatry, and as such it entitled him to continue without a license in the practice of podiatry, under that provision of the act that exempted from its operations podiatrists practicing prior to its passage.

The court stated, further: "The science of osteopathy has become sufficiently established to justify the classification of

its practitioners within the exception of the [podiatry] act, 'regular practicing physicians.' . . . Plaintiff in error was merely pursuing the practice of his profession within the lawful limits and was guilty of no infringement of the law." The phrases "lawful limits" and "the law," used in that portion of the decision just quoted, have been looked on by some persons outside the legal profession as referring to all law whatsoever, including the medical practice act; but inasmuch as the case at bar was brought under the podiatry law, it is probable that they are to be construed as relating to that law alone. The decision can hardly be looked on as authority for the statement that osteopaths practicing medicine in the District of Columbia are exempt from the provisions of the medical practice act.

## *Medicolegal*

### Validity of Food Ordinance Requiring "Medical Examination"

*(Ex parte Vaughan (Texas), 246 S. W. R. 373)*

The Court of Criminal Appeals of Texas, in refusing the relator's application for a writ of habeas corpus, and in remanding him into custody, says that he called in question the validity of his conviction for a violation of an ordinance of the city of Dallas. The complaint charged that he was the proprietor of a meat market, in which he worked more than five days "without a certificate from some reputable physician of the city of Dallas attesting that the bearer had been examined at any time within the last six months before the filing of this complaint and had been found free from infectious and contagious diseases." Many grounds were specified in the application for the writ of habeas corpus, but the court thinks that none need be adverted to except such as were necessary in deciding whether there was a valid ordinance of the city of Dallas on which the complaint could be lawfully based. The ordinance in part reads:

> Hereafter it shall be unlawful for any person, firm, organization or corporation, operating a food products establishment, to work, employ or to keep in their employ, any person infected with or affected by any infectious on contagious disease. It shall be unlawful for the proprietor to work in such an establishment, if he is infected with or affected by any infectious or contagious disease, and all proprietors shall be subject to the medical examination hereinafter provided for.
>
> It shall be unlawful for any individual, firm, corporation or organization operating any food establishment to employ any person to work in such establishment who, at the time of their employment, had not in his or her possession a certificate from some reputable physician attesting the fact that the bearer has been examined by such physician within one week prior to the time of employment, and that such examination discloses the fact that such person to be employed was free from any and all infectious or contagious diseases.

In its charter, the city is given "the power to enact and enforce ordinances necessary to protect health, life, and property, . . . to protect the lives, health, property of the inhabitants of said city, . . . and it shall have and exercise all powers of municipal government not prohibited by this charter, or by some general law of the state, or by the provisions of the constitution of the state."

That the enactment of suitable legislation to protect the public health against the use of impure food is within the general scope of the police power is not an open question.

The use of the term "medical examination" in the ordinance does not vitiate it on account of the rule against indefiniteness in criminal laws. The ordinance says that "all proprietors shall be subject to the medical examination hereinafter provided for." In interepreting the words "medical examination," it would be proper to consider the language "examined by such physician within one week prior to the time of employment, and that such examination discloses," etc. It would seem, taking the ordinance complete, that it would not be indefinite or confusing, but that its fair interpretation is that by the term "medical examination" is meant "an examination by a reputable physician disclosing that the person in question is free from all infectious or contagious diseases."

It was suggested that the ordinance is in conflict with the state law on the same subject. If so, it must be confessed that the court has been unable to discover it, and that it was not pointed out.

### Power to Prescribe Qualifications for Examinations

*(State ex rel. Bond v. State Board of Medical Examiners (Ala.), 95 So. R. 295)*

The Supreme Court of Alabama says that the relator applied to the circuit court for mandamus to the state board of medical examiners to compel that board and its members to permit her to register and make application for and to take the examination for a certificate of qualification to treat diseases of human beings or to practice medicine. The reason assigned why she was not permitted to register and take the examination in question was that she was not a graduate of a medical college of the grade or class prescribed by the rules of the medical association of the state. These rules, so far as pertinent, required that the class of applicant of which the relator was should be a graduate of a medical college which required two years' college work in addition to high school work—of a college having the facilities required by the rules and regulations of said medical association. The relator demurred to the answer, and, her demurrer being overruled, took a nonsuit and an appeal. Her counsel admitted that under the Code of 1896 the medical association had the right to prescribe the standard of qualification for admission to practice medicine and "the method or system of practitioners of medicine"; but the act passed in 1907 to regulate the practice of medicine did not contain Sections 3261-62, as they were embodied in the Code of 1896.

It is established on unquestioned authority that a state may regulate the practice of medicine, using that word in its most general sense. The legislature may also by statute delegate to agencies of government or officers thereof the authority to perform administrative functions, which the legislature might perform, and may authorize such officers in such administration to exercise "legislative discretion."

The supreme court has examined carefully the statutes in question (Code of 1907, Section 1627 and following sections) as constituting the system provided by legislative sanction and authority, for the subject and objects in view, and the court is of the opinion that the authority exercised by the medical society and its board of examiners was a reasonable exercise of the discretion and authority reposed in it and them by law. Neither the statute nor any provision of the code attempted to deprive the medical association or its state board of examiners of any right or power to prescribe reasonable rules and regulations for the examination of applicants; and the statute and its codification recognize such authority and power by declaring that applicants for license must conform to such rules and regulations. Nor, as was insisted by the relator, is the allowance by the legislature of the express power to pass on the moral qualification of applicants a denial to the medical association, or to its duly constituted boards, of the right to prescribe other reasonable rules, qualifications, or requirements governing the admission of applicants for the certificate of qualification to practice medicine and surgery. The history and purpose of the statutes regulating and safeguarding the practice of such professions, the importance of this branch of science, and the agency and duty of the state in relation thereto and to the general public to be served and affected thereby, require that a liberal construction be given the statutes having application to attain the purpose of the enactment. This is done without violating fundamental or statutory rights. No right guaranteed to the relator under the Fourteenth Amendment to the federal Constitution has been abridged. She has not been deprived of her property right to earn a living in her chosen avocation or profession, without due process of law; nor does the reasonable regulation to which she has been compelled to conform deny to her the equal protection of the law. The supreme court is of the opinion that the act of the medical society and its board of examiners was within legislative authority, and that the judgment of the circuit was without error. The judgment is affirmed.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, San Francisco, June 25-29. Dr. Olin West, 535 N. Dearborn St., Chicago, Secretary.

American Association of Anesthetists, San Francisco, June 25-27. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.
American Ophthalmological Society, Colorado Springs, June 19-21. Dr. T. B. Holloway, 1819 Chestnut Street, Philadelphia, Secretary.
American Proctologic Society, Los Angeles, June 22-23. Dr. Ralph W. Jackson, 245 Cherry Street, Fall River, Mass., Secretary.
American Psychiatric Association, Detroit, June 19-22. Dr. C. Floyd Haviland, Drawer 18, Capitol Station, Albany, New York, Secretary.
American Radium Society, San Francisco, June 25-26. Dr. Edwin C. Ernst, Humboldt Bldg., St. Louis, Secretary.
American Society of Clinical Pathologists, San Francisco, June 25-26. Dr. Ward Burdick, 652 Metropolitan Bldg., Denver, Secretary.
American Society of Tropical Medicine, San Francisco, June 25-26. Dr. B. H. Ranson, Bureau of Animal Industry, Washington, D. C., Sec'y.
American Therapeutic Society, San Francisco, June 22-23. Dr. Lewis H. Taylor, The Cecil, Washington, D. C., Secretary.
Arizona Medical Association, Grand Canyon, June 21-22. Dr. D. F. Harbridge, Goodrich Bldg., Phoenix, Secretary.
Association for the Study of Internal Secretions, San Francisco, June 25. Dr. F. M. Pottenger, Title Insurance Bldg., Los Angeles, Secretary.
Association of American Teachers of Diseases of Children, San Francisco, June 26.
California, Medical Society of the State of, San Francisco, June 21-23. Dr. W. E. Musgrave, Balboa Bldg., San Francisco, Secretary.
Medical Women's National Association, San Francisco, June 25-26. Dr. M. J. Potter, First National Bank Bldg., San Diego, Calif., Secretary.
Montana, Medical Association of, Butte, July 11-12. Dr. E. G. Balsam, 222 Hart-Albin Bldg., Billings, Secretary.
National Tuberculosis Association, Santa Barbara, Calif., June 20-23. Dr. George M. Kober, 370 Seventh Avenue, New York, Secretary.
New Jersey, Medical Society of, Atlantic City, June 21-23. Dr. William J. Chandler, South Orange, Secretary.
New Mexico Medical Society, Albuquerque, June 19-21. Dr. J. W. Elder, Santa Fe Hospital, Albuquerque, Secretary.
Oregon State Medical Association, Portland, July 10-11. Dr. C. L. Booth, Selling Bldg., Portland, Acting Secretary.
Pacific Northwest Medical Association, Seattle, June 19-21. Dr. F. Epplen, 422 Paulsen Building, Spokane, Secretary.
Radiological Society of North America, San Francisco, June 21-22. Dr. M. J. Sandborn, Appleton, Wis., Secretary.
Utah State Medical Association, Salt Lake City, June 20-22. Dr. W. L. Rich, Boston Building, Salt Lake City, Secretary.
Western Society for the Study of Hay Fever, Asthma and Allergic Diseases, San Francisco, June 25. Dr. A. H. Rowe, Hutchinson Bldg., Oakland, Calif., Secretary.
Wyoming State Medical Society, Laramie, June 20-21. Dr. Earl Whedon, Sheridan, Secretary.

## MEDICAL SOCIETY OF THE STATE OF NEW YORK

*One Hundred and Seventeenth Annual Meeting, held in New York, May 22-24, 1923*

DR. WILLIAM D. ALSEVER, Syracuse, in the Chair

## SYMPOSIUM ON DIABETES

### The Routine Treatment of Diabetes with Insulin

DR. ELLIOTT P. JOSLIN, Boston: This paper was published in THE JOURNAL, June 2, p. 1581.

### Clinical Use of Insulin

DR. JOHN R. WILLIAMS, Rochester: I began to use insulin one year ago. To whom should insulin be given? Obviously only to patients with diabetes. As many as 150 persons have been sent with a conjectural diagnosis of diabetes, simply because there was slight trace of reducing substance in the urine. These are not true cases of diabetes and are not suitable for insulin treatment. The fundamental requirement is that there should be hyperglycemia. A person may be suffering from diabetes with normal blood sugar and no glycosuria, yet there may be evidence of acidosis in the expired air. In another patient there may have been a great ingestion of sweets, and temporary high blood sugar, so these cases call for careful examination. Can insulin be given by mouth? It has been given by mouth, by rectum and by duodenal tube, but there is no effect at all from the drug unless it is given subcutaneously or intravenously. How should insulin be administered? A complete examination of the patient is made, and his basal requirement estimated. Thirty calories per kilogram of body weight are allowed. We give 1 gm. of protein per kilogram, and 50 gm. of carbohydrate, and make up 8 calories with fat. Before giving insulin clinically, we give a very small test dose to see if there are any anaphylactic phenomena. One unit of insulin is given for every 5 gm. of urine sugar excreted. The first day, 15 units is given, 10 before breakfast. The blood sugar is low for four hours, showing the duration of the effect of the drug. It is necessary to know the variations of the blood sugar curve in each patient, the highest point, and the lowest point. The normal blood sugar level is 0.11 per cent. After the first treatments, patients usually go home improved. At this time it is necessary to (1) increase the diet; (2) decrease insulin dosage, or (3) redistribute the doses. The family physician should watch for reactions, or for excretion of sugar, and note the time these occur. This will give a basis for redistributing the dose so as to forestall these occurrences. In some patients the blood sugar curve is high in the morning, and in some it reaches its height at midnight. The insulin should be given in accord with this individual curve of the patient. Must dietary regulations be continued? I would say, Yes. We have had twenty cases of coma. One patient died. Patients should be treated at the earliest possible moment, no matter how severe the cases. Insulin will not affect infection or gangrene, but it will control the diabetes. We had three fatal cases with complete anuria. I do not know whether the extract administration had anything to do with that, but if the patient is dying one must try something. An intravenous dose of 50 units is the best measure in extreme cases. In cases of gangrene, the possibility of more conservative operations is opened up by the use of insulin. We had ten cases with eight recoveries. After a few months, it appears that the pancreas regains some tendency to natural secretion. There are no bad effects if necessary care is taken. The general practitioner can regulate the cases at home by regulation of the food, observing the renal threshold, and teaching the diet to the family and the patient. Quantitative examinations of the urine for sugar should be made to determine glucose utilization, and the patient's weight must be charted. In answer to the question, Is this an economic necessity? I will say that one man, a skilled mechanic, is able by spending $2 a day to work full time and earn $45 a week. He is ahead $30, and the price of the drug is coming down, while he is advancing in his work. I think that is sufficient answer.

#### DISCUSSION

DR. HERMAN O. MOSENTHAL, New York: Treatment by insulin is not easily and smoothly accomplished. The knowledge of what has gone before is as necessary as treatment by insulin. An incredible amount of work has been done in the last ten years and we cannot discard this or do without the knowledge thus gained. We can distinctly say that acidosis is caused by faulty carbohydrate metabolism and that certain mixtures of carbohydrate, fat and protein have helped our patients. Dr. Joslin knows how to manage carbohydrates and proteins, so that he can manage very small doses of insulin, but the rest of us cannot do it so well. I believe if we discard the proper proportional ratios of carbohydrates and proteins, it is only a question of time before we come to grief. I shall have to disagree with Dr. Joslin in one thing: diabetes is not a mild disease. The mortality figures show that it is not mild, and it consequently deserves all the thought and study that can be given to it, in regard to diet as well as in regard to insulin. Insulin shock is brought about in different individuals at different levels. Some patients can get severe symptoms with apparently normal sugar levels. When the blood sugar is rapidly reduced, the osmotic processes in the blood are changed, and symptoms are produced. The same can be said of the renal threshold. It is not constant. In starvation it is lower, and sugar will go through. We cannot be iconoclastic in this matter and we cannot judge from urinary sugar alone and yet be perfectly safe. Another point is that after a little time in which insulin has been used, the blood sugar is reduced, and yet the diet is about the same. We would either increase the diet or decrease the insulin. We may get careless about this and get a hypoglycemic reaction in the patient. In regard to acidosis: the treatment of glycosuria and of hyperglycemia is the same as before insulin was used. Whether

we can reduce this to normal level is still an open question. In children who have a renal threshold of 110 to 120 mg. blood sugar we cannot always keep the urine free with the use of insulin. In adults with a figure of 250 mg., insulin can be used with a certain degree of impunity. Another point is that the patient must cooperate with the physician. There is no routine treatment. Each individual must be treated for himself and himself alone. In regard to pruritus vulvae, the sugar containing urine is the irritating factor. If sugar is eliminated, this symptom disappears. Whether the general itching is a specific symptom of diabetes, I do not know, but I do not think it is. The polyuria tends to cause a dry scaly skin, which is cured with relief of symptoms. Sometimes sodium chlorid administration does away with the dry skin and consequent itching. In children there is a more pronounced reaction with a unit of insulin, per pound of body weight, than with adults. The effect is proportionately greater, and caution should be the watchword.

### Problem of the Leukemias

DR. THOMAS ORDWAY, Albany: The general conception of the leukemias and leukocythemia is that it is a disease of the blood-forming tissues, manifested by marked hyperplasia, showing, when fully developed, a great increase in white blood cells, accompanied by splenic and glandular enlargement. The white blood cells are pathologically immature cells which gain access to the blood stream, and it is their immaturity that distinguishes the condition from leukocytosis. This classification needs some modification because leukemias have been seen without abnormal blood pictures, so that cellular hyperplasia is a more exact criterion of leukemia than the blood picture. Further, the blood pictures in purpura hemorrhagica, in scurvy, and in acute and chronic leukemia may look very much alike. There is no special staining differentiation. Leukemias have been classed among tumors, but experimental work does not bear out this theory. Chicken leukemia has been produced experimentally by regulated doses of the bacillus of fowl typhoid, which suggests that leukemia is an unusual response of the blood to infective agents. It is difficult to separate acute and chronic leukemias, as there are many intervening stages. The former is rapidly fatal. When the course is longer, it tends to become subacute or chronic. Acute myelogenous leukemia and acute lymphatic leukemia are difficult of differentiation, and need careful staining investigations. The embryonic cells of both types look much alike. Metabolism is above normal, as shown by intolerance for heat. In treatment radium has been used with better success than other agents, although results are not permanent. The urine shows marked changes from autolysis of abnormal tissue. The phagocytic power of the white cells is feeble, though more marked in the polymorphonuclears. As it has been suggested that complement is due to white blood cells, it was thought that this function would be perverted in any abnormality of the cells. The serum was studied in regard to complement content in both lymphatic and myelogenous leukemia, but was not found to be increased. A leukolytic serum has been produced in rabbits by injecting plasma from myelogenous leukemia. The degree of specificity has not been determined. A proteolytic ferment capable of digesting fibrin is shown. There is an enzyme in the leukocytic cells which is absent in the lymphogenous cells, thus giving an important differentiation for these cell groups. This is essential in the distinction between myelogenous and lymphatic leukemia. The term leukemia, or mixed leukemia, should be discarded. The types should be differentiated by careful staining methods. There are atypical types approaching pernicious anemia, which represent unusual response to infection. Chloroma seems to bear a close relation to leukemia, as oxidase and peptic ferments have been demonstrated in the cells in this disease as well as in leukemia. Radium is the best means of therapy at present. The results of irradiation of the spleen are of varying duration, sometimes lasting for months only, sometimes for years. The results obtained after splenectomy do not justify the supposition that the spleen is the most important organ in the production of leukemia. The more primitive the white blood cells, the greater their destruction by radium. The least dose used was 25 mg., the optimal dose 100 mg.

### Treatment of Anemia by Transfusion

DR. W. W. G. MACLACHLAN, Pittsburgh: The whole blood method of transfusion has no great advantage, while both donor and recipient profit by the ease of the citrated mode of transfusion. Any untoward reactions which arise in the latter are due to poor technic and too rapid introduction. In regard to tests, blood matching is more exact, but is time consuming. Typing is quicker, but we cannot be sure that there are not more than four types of blood. If all the reactions from transfusion are attributable to agglutinin reactions, we should return to individual matching, as being safer, but some of the phenomena seen, pain in the lumbar region, constriction of the thorax, flushing of the face, rapid pulse, and hemoglobinuria, remind us of anaphylactic phenomena when seen at second transfusion. Benefit from transfusion is less when the reaction is severe, but this is not proved. Data on this question would be interesting and useful. Another point is that sometimes a blood of different type has been given in emergencies, without any ill effect. The question of the value of transfusion in pernicious anemia may be raised. Does it do more than nature does in this disease? If given when a remission is due it seems to hasten it. There is often appearance of general improvement, with disappearance in symptoms and steady increase in the red cells; but how much of this is due to transfusion we cannot say. In cases with nervous system involvement it is practically useless. Vital staining with careful counting will give some idea of improvement. Increase of reticulated red cells after transfusion indicates likelihood of a remission. These cells are a more reliable sign of bone marrow activity than nucleated reds. If they are not increased, further transfusion will not benefit. Sometimes just before death the nucleated reds go up to 30 or 40 per cent., which represents the last crisis of bone marrow activity. It would seem wiser to give small amounts of blood, thus imitating Nature's method in causing a remission. It is certain that transfusion has a far more definite value in secondary anemias, in which there is a definite and marked response than in primary anemias in which its value is theoretical.

#### DISCUSSION

DR. NELSON G. RUSSELL, Buffalo: Dr. Ordway's paper leads one to think that the diagnosis is not often in question, although he states that the cells are usually abnormal. I could cite instances in which diagnosis was not so easy. The association of Vincent's organisms with leukemia cannot be ignored. Cases of acute mononucleosis are often overlooked and a high leukocyte count is disregarded. As to treatment, our success has not been great with radium, perhaps on account of different technic. The mental effect of treatment on the patient has some bearing in these cases. In regard to pernicious anemia: We are all trying to do something, and if one man does not use transfusion, another will. The patient wants us to make some effort, and giving small amounts of blood is about as harmless as anything one can do. Remissions do follow transfusions in some cases, and the patient's peace of mind is worth considering. When, however, the blood is destroyed and very rapidly eliminated, there is no use going on. The use of hydrochloric acid certainly makes the patient more comfortable.

DR. H. R. BROWN, Rochester: There are some subordinate groups of the four types. I use individual matching, with minimal bad effects. The sodium citrate used should be chemically pure; if it is, there will be no ill effects from citration of the blood.

DR. BALDWIN MANN, Buffalo: Whole blood is superior to the citrated blood. I used the citrated method for a year, but discarded it. While the reactions were not serious enough to affect the final result, they were more numerous after citrated blood. One point that is important is to strain the citrated blood before introducing it into the recipient. If this is done, a good deal of fibrin will be caught which might block the apparatus or go into the recipient. A certain amount of skepticism is justified in considering the benefit of transfusion in pernicious anemia. Some men have questioned whether there is not an earlier exhaustion of the bone marrow from repeated transfusions. I believe, however, that

in properly selected cases it is of benefit, especially when the patient is exhausted and discouraged.

DR. E. G. STILLMAN, New York: In the tests for compatibility of the blood, possibly both direct and indirect methods should be used, by matching and by typing. There is practical advantage in the blood grouping in the management of professional donors; on the other hand, the universal donor group cannot be used indiscriminately without getting some disagreeable reactions, and direct matching is advantageous in some cases. Another point is that when the patient is in very bad condition, direct matching may fail to show incompatibility, because the agglutinins may be so few that they do not show clumping of the donor's corpuscles. We had one fatal result following transfusion, owing to this difficulty. No matter what methods we follow, I think we shall not be able entirely to avoid reactions after transfusion, certainly not until our knowledge of the processes entailed is much increased. I do not think the new groups suggested by Guthrie would upset our present grouping of donors so that this method can still be used.

DR. THOMAS ORDWAY, Albany: In regard to Dr. Russell's remarks concerning the diagnosis of leukemia, there is no difficulty in the great majority of the cases; but in certain instances of acute mononucleosis there is considerable doubt. It is sometimes impossible to make a diagnosis unless by special histologic staining methods which bring out the presence of leukocytic hyperplasia in the tissues, which is the final criterion. As to the presence of Vincent's organisms as an etiologic factor, these are so frequent in ulcerative and hemorrhagic conditions of the mouth that one would hesitate to say that they play a part in the etiology. In regard to radium, it is important not to overirradiate. I have seen rapidly fatal termination in Hodgkins' disease because irradiation was carried on till the glands in the neck entirely disappeared. We should be satisfied with moderate reduction of the size of the glands. In regard to prognosis: These patients do not seek advice until enlarged abdomen or glands call their attention to the disease, and this is a late stage; therefore our reports on frequency and results rest on insecure data.

*(To be continued)*

## ASSOCIATION OF AMERICAN PHYSICIANS

*Thirty-Eighth Meeting, held at Atlantic City, N. J., May 1-2, 1923*

*(Continued from page 1727)*

### Insulin in Diabetic Coma

DR. N. B. FOSTER, New York: No cases of diabetic coma developed under our supervision, but forty-five cases have come to us from other hospitals. Eight patients recovered completely, and five are still living. We have used insulin to combat acidosis, combined with alkalis to protect the tissues from acid intoxication. The first dose of insulin was given in the emergency ward. The primary object in giving insulin is to start the combustion of glucose by interrupting the abnormal catabolism. We do not know the blood sugar figures or the amount of insulin necessary, but we give a large dose and watch for the first signs of insulin shock (seen only in one case). The glucose can be administered by the rectal drip. As soon as the patient recovers consciousness, glucose and orange juice can be administered by mouth. The amount of insulin needed was very variable: the smallest quantity given within twelve hours was 70 units, and the largest amount, 240 units. In one case, 300 units was not sufficient. One important factor is the treatment of the desiccation of the tissues and the dryness of the pharynx. Even if acidosis is overcome, desiccation may lead to death, so that it is necessary to give fluids by every avenue of approach: by rectum—using a solution with 5 per cent. glucose and 3 per cent. sodium bicarbonate—by mouth, and, if the latter is impossible, by hypodermoclysis. In two cases fluid was administered peritoneally with apparent success. Alkalis are given intravenously, but only in small quantities. Large quantities of fluid are absorbed by rectum. Death is often due to cardiac failure in these cases, and the patient should be watched carefully. If signs of heart failure intervene, digitalis and caffein should be given to support the failing heart.

### Insulin in Diabetes in Children

DR. H. RAWLE GEYELIN, New York: Insulin can be used in the severest forms of diabetes that we see clinically, especially those in children. We have treated seventeen cases. Nutrition was allowed to the extent of 2 or 3 gm. of protein per kilogram of body weight, and carbohydrate equal to or above the protein intake. Fat is given to bring the total caloric intake up to 50 per cent. over and above the basal requirements. Unfortunately, our insulin supply has been restricted. On an average, the amount of insulin required to oxidize 2 gm. of carbohydrate was 1 unit. This was not constant in all cases, but tended to become so over a long period of time. It was noted that the children required less insulin for a given amount of carbohydrate after long treatment than when first under observation, thus showing evidence of less strain on the pancreas. The amount of insulin required was determined by blood sugar and urine sugar examinations. The glycosuria amounted to excretion of from 1 to 10 gm. of an intake of 125 gm. of carbohydrate. The patients gained in weight and height. Before insulin was started, some of them were so weak that they could not stand without being supported. They are now able to go to school and lead the life of a normal child.

### Experiments with Insulin

DR. F. M. ALLEN, New York: It seems that we are inclined to work out the problems of insulin entirely with reference to carbohydrate metabolism. We have now to learn whether the internal secretion of the pancreas is related to glucose metabolism alone, or whether there is any connection with protein metabolism. The tests will vary according to blood sugar and glycosuria, but any test will serve if time enough is allowed. The tests will be quicker in result if carbohydrate is allowed, and will take longer in the case of ingestion of fat, alcohol, etc. A high proportion of fat in the diet raises the insulin requirement. Glycosuria is affected most by carbohydrate, nex by protein and lastly by fat; but if enough fat is added, more insulin will be needed to handle it. Protein does not act quickly in preventing hypoglycemia. Sugar or starch act more powerfully in preventing hypoglycemia collapse. Carbohydrate is thought responsible for glycosuria resulting from too high fat, but there is not enough carbohydrate derived from 100 gm. of fat to correspond to 7 units of insulin. Experiments with high additions of fat (150 gm.) showed that it required 22 units of insulin to handle the fat. These results confirm the findings in the undernutrition treatment. If the body weight is kept low, less insulin is required.

DISCUSSION

DR. RUSSELL WILDER, Chicago: The problem of balancing diet in young children calls for careful handling, especially when complicated by infection. The balance between hypoglycemia and hyperglycemia in a child is so narrow that it is easily upset either way. I believe that it is as well to interpose a buffer in the way of some glycosuria and hyperglycemia in children under 8 years, which leaves a margin of safety, rather than keep them sugar free. This may mean large doses of insulin, but I think it is safer. Dr. Allen fails to take into account the total calories of food in the experiment. The ideas are not justified unless one takes into consideration the food requirement. He knows what the patient is getting but he has no idea at all of what the patient is burning.

DR. REGINALD FITZ, Boston: In dealing with hospital patients, the disease is a severe economic drain on the patient and on his family, necessitating, as it does, special equipment and food, and meaning progressive loss of strength. What are we to advise these patients? Is insulin to mean to them a luxury or a necessity? Are they to mortgage their farms and possessions to procure enough insulin to bring them back to a normal economic status? This is a very serious practical problem.

DR. ALFRED STENGEL, Philadelphia: I believe that when the patient has been greatly reduced in weight, an increase of diet to the point of a little spilling over of sugar might

be advantageous; but it is as well generally to reduce the blood sugar and keep the urine as sugar free as possible. In regard to Dr. Allen's observations, I think that there is a possibility of considerable digestive upset in suddenly throwing large quantities of fat into the diet. To raise 800 calories suddenly to 2,000 calories is not a very fair test of metabolic processes. In a series of fifty cases, in the adolescent types, we have put the patients on a diet 50 per cent. above maintenance requirement, so as to regain strength, and then have taken up the problem of gradual restriction so as to be able to send them home sugar free with a minimal dose of insulin necessary to keep them at that status.

DR. E. P. JOSLIN, Boston: Infection is the worst risk to the patient with diabetes. If he gets to the hospital alive, we can take care of him. If the surgeon thinks the patient can stand operation, it is done that night. In regard to coma, I agree with Dr. Foster in every detail. It is important to treat the dryness of the patient. Coma is a terribly serious disease, and we should not lose any time. The patients should have liquids right away. This can be done by injection of 1,000 c.c. of salt solution and then gradually working in fluids. The first hour is worth more in treatment than the next twenty-four hours. In regard to hyperglycemia and glycosuria, these patients in middle life die from the complications, and if we prolong their lives only to get complications later from high blood sugar, we are not doing the best for them. I believe in keeping them sugar free not only by insulin, but by proper dietary restriction and slow improvement of the patient. In regard to insulin as a luxury versus a necessity, that is a very important point. School teachers can work with insulin, when they cannot without it, so that is an economic benefit to them. We should all collect data on this question. I have not been giving alkalis since 1917. If I have had results without insulin and without alkalis, it is interesting to look forward to what will happen with the help of insulin.

DR. N. B. FOSTER, New York: In regard to the economic questions arising in connection with the use of insulin, patients are able with its help to work and support their families, while without it they could not work at all. In regard to raised diet and insulin, a man on 1,000 calories was reduced to 110 pounds ( 50 kg.). He is now receiving 15 units, and can take 2,200 calories and weighs 140 pounds (63.5 kg.).

DR. H. R. GEYELIN, New York: In regard to the cost, with continued dosage, a smaller amount of insulin is necessary to oxidize the same amount of carbohydrate. The cost of insulin does not equal the cost of the special diabetic diet and its burden on poor families. I believe, therefore, that we can regard insulin not as a luxury, but as an absolute necessity from an economic standpoint. In the poorer families the added cost of special food is eliminated, and the patient can live on the same ration as the rest of the household; moreover, adults are brought back to increased earning capacity, and the burden of illness and unemployment is removed. In regard to allowing sugar to show in the urine, most of the high peaks of glycosuria were concomitant with some minor infection, and control was kept when there was no such process going on. In a series of experiments in which urines were analyzed both during the day and at night, there were cases in which the urine and the blood sugar were normal during the day and began to go up at night and until 4 a. m.; but the period over which hyperglycemia and glycosuria existed was not very long. There is no positive evidence that hyperglycemia is conducive to concomitant infections, but we have assumed that it is so. Another point of human interest is that of the expression of joy on the faces of these kids when they are at last allowed to eat bread and mashed potato. It shows that insulin is worth while.

DR. F. M. ALLEN, New York: This is a question of tolerance. If the patient's tolerance rises, one can increase the diet. With increased weight he needs more insulin because it is burning his own body fat as well as the increased diet. There are no digestive troubles when the patients get this increased fat diet. If the protein was not absorbed, the results were even more striking. In regard to the economic question, the patients get insulin and can increase the diet; then they go back to work. I believe in keeping the patients sugar free, and blood sugar normal. Those with high blood sugar are likely to develop arteriosclerosis and gangrene as they get older.

### Case of Myelogenous Leukemia

DR. SOLOMON SOLIS COHEN, Philadelphia: I have studied three cases of acute leukemia showing early and transitional cells. These cases show that it might be well to give serious consideration to the classification of Caillot. The first patient, a woman, aged 36, came with a diagnosis of bronchopneumonia, but routine blood examination revealed a different condition. Hemoglobin was 79 per cent.; red blood cells, 4 million, white blood cells, 30,000, 90 per cent. being of a special mononuclear type. Some authorities call these primary cells, but I prefer to designate them "early cells." They are round or oval cells, staining more deeply than myelocytes with the oxydase stain, and showing many granules. There were many transitional forms. Clinically, the case was characterized by fever and mouth infection. The patient died three months after the onset of the illness, and at necropsy myeloid infiltration was found in the spleen and in the femora. In the second case, a woman, aged 56, the blood count showed 90 per cent. of basal cells. Bacteriologic examination of the mouth disclosed three strains of streptococci. The third patient, a middle aged woman, came with a diagnosis of uterine hemorrhage. Her blood count showed 80 per cent. lymphocytes. I believe from a study of these cases that we must make three divisions of the acute leukemias: (1) the early cell acute leukemia; (2) that with transitional forms and Türck cells, and (3) that with cells tending toward lymphocytes, or lymphatic leukemia.

### The Hemolytopoietic System

DR. E. B. KRUMBHAAR, Philadelphia: This system is as definite in its function as the respiratory system, and I have named it the hemolytopoietic system. The spleen is the only organ of this system which can be removed, although various tissues take part in the activity of this function, i. e., bone marrow, spleen, liver and lymph nodes. The reticular endothelial system is very closely related. Sudden changes in this system are met promptly, as when removal of the spleen is soon balanced by other factors of the system. Various parts have different functions: The bone marrow forms erythrocytes; the spleen forms blood cells in embryo, stimulates the bone marrow and aids in blood destruction; the liver forms blood cells in embryo and aids in destruction of the blood cells; the lymph nodes aid in blood destruction; the reticulo-endothelial cells, or Kupffer cells, are found in the liver, spleen, bone marrow and suprarenals, and aid in destruction by phagocytosis. Thus, in dogs made plethoric by repeated transfusions, the Kupffer cells are engorged with red blood cells and broken down cells. Under stress, the organs can take up the work of forming blood cells. Islands are found in the spleen and liver when the bone marrow is destroyed, and the bone marrow can take on lymph formation after splenectomy. It is believed that in selected cases splenectomy is very valuable in cases of hemolytic jaundice, and good results can be obtained thereby.

#### DISCUSSION

DR. A. S. WARTHIN, Ann Arbor, Mich.: The reticular endothelial cells of the hematopoietic system have a scavenger function and will take up anything in the blood or lymph stream. The Kupffer cells have been found loaded with broken down lymphocytes. It is well known that these cells take up pigment. I think that their function is a protective one, and that the rôle of scavenger is only part of their activity. It is misleading to ascribe the greatest prominence to this, which is only one of their functions.

DR. G. B. WEBB, Colorado Springs, Colo.: In regard to the marrow producing lymph elements, many years ago it was noted that at high altitudes lymphocytosis was increased on account of the hyperplasia of the marrow. Hyperemia would bring about the same result. Even putting on garters would cause an enormous lymphocytosis—about 80 per cent. We were never able to describe these cells. Ehrlich hesitated to give a name to them; they appeared like transitional cells.

It is interesting to know that the bone marrow takes part in the lymphoid elements.

DR. E. B. KRUMBHAAR, Philadelphia: I quite agree that these cells have a broader function than that of hemolysis. I think that applies to the Kupffer cells. Collargol-stuffed animals failed to get jaundice because the cells were already stuffed with collargol. There are many functions that are known, and I hope by this introduction to stimulate interest in this system in regard to the activities of the cells.

### Massive Collapse of the Lung

DR. NORMAN GWYN, Montreal: It is said that massive collapse of the lung occurs so rarely as to be of little clinical interest, but I believe that it is found in proportion as it is looked for. I have found eleven cases in one year, and seven cases during another. The symptoms are usually obscured by some other diagnosis. If a pneumonia patient has dyspnea, cyanosis and rapid pulse, we think of heart failure; but a careful analysis will show some particular features which will differentiate the case from other cases. The etiology is still very obscure, and no one cause can be cited. Emboli have been suggested, and also tracheal and bronchial obstruction. In a child that died under operation for papilloma of the larynx, both lungs were found collapsed. In another case, necessitating ligation of the facial artery, the man had bronchitis with acute dyspnea and collapse of the lung. In these cases there is a pushing in of the side of the chest from atmospheric pressure. In pneumonia cases and also after abdominal operations, the patient sometimes shows acute respiratory distress, and disappearance of breath sounds, and the roentgen ray shows disappearance of the heart into the shadow. This occurs very suddenly, and the emphysema on the sound side is so extreme that pneumothorax is frequently diagnosed. No exact cause can be stated for this condition, but it may be due to vasomotor disturbance of the pulmonary circulation.

DISCUSSION

DR. F. T. LORD, Boston: These cases have generally been reported as rarities; but if all cases were recognized, they would not be so very infrequent. I believe that this condition is not uncommon in suppurative lesions of the lung. There are signs of atelectasis at the base, with diminished whisper, voice and breathing. There is also displacement of the heart toward the affected side. Some cases are more insidious than the obvious cases described by Dr. Gwyn. In pneumonia they occur at the base, coincident with atelectasis. In 558 cases of pneumonia, there was displacement of the heart toward the side of the pneumonia in fourteen cases, in spite of effusion toward the affected side, probably by collapse of the lung in this region. The roentgen ray gave evidence of the displacement and subsequent return of the heart to its normal position. It may be an inflammatory process. There is developed of exudate in the bronchi, with absorption of air into the passages, and then inflammatory reaction with consequent atelectasis.

### Abscess of the Lung

DRS. JAMES A. MILLER and ADRIAN VAN S. LAMBERT, New York: Abscess of the lung may occur without previous pneumonia. The interstitial tissues may become infected and break down. A secondary abscess may develop in the opposite lung. This problem was originally approached from the surgical standpoint, but the results of opening and draining the abscess were so poor that rest and postural drainage were substituted, with great improvement in results. Pneumothorax was established in seven cases. Bronchoscopy and lavage were tried in one case, which was exceedingly trying to the patient. It is not free from risk, and we believe that it is indicated only in foreign body cases. The mortality in surgical treatment was 55 per cent.; under medical treatment it was 38 per cent.

DISCUSSION

DR. C. P. HOWARD, Iowa City: What do you think as to the advisability of aspiration of the abscess?

DR. THOMAS MCCRAE, Philadelphia: I should like to emphasize the value of bronchoscopy and drainage. I have seen a series of cases treated by this method, and it has revolutionized my ideas. The results are marvelous.

DR. F. T. LORD, Boston: Formerly we operated in all lung cases, and now we are treating them medically. Seven patients recovered spontaneously. In our hands, operative mortality proved to be so high that we were induced to try medical treatment, and we have found that a very much larger proportion of the patients have recovered.

DR. JAMES A. MILLER, New York: Aspiration of the lungs is a difficult procedure. The pleura is very resistant to infection. As far as bronchoscopy and drainage are concerned, perhaps we have not given this procedure a fair trial. A man who has undergone bronchoscopy once would rather submit to any sort of operation than go through it again.

### The Pathologic Lesions in the Various Organs Occurring in Epidemic Influenza

DRS. S. BURT WOLBACH and CHANNING FROTHINGHAM, Boston: Certain pathologic lesions seem to be characteristic of epidemic influenza, such as: (1) congestion of the upper respiratory tract; (2) the lesion in the muscles known as Zenker's degeneration, sometimes with abscess formation; (3) lesions of the cortex of the suprarenals with degeneration of glandular tissue; (4) disease of the testes with disappearance of spermatazoa; and (5) lesions in the lung, consisting of desquamation of epithelium, dilatation of air spaces and hemorrhage into the air spaces of the bronchi with formation of hyaline membrane in the air spaces, caused by the air meeting with exudate under certain physical conditions of pressure. These lesions are due to the virus of the disease or to complicating organisms in the lung. There is a definite type of bronchopneumonia in the clinical picture. The characteristic lesions of influenza are recognizable at necropsy.

DISCUSSION

DR. W. G. MACCALLUM, Baltimore: These pictures correspond very precisely with my own. There is nothing especially characteristic of infection of the lung by pneumococci, but there is of influenza infection. The interstitial bronchopneumonia is associated exclusively with infection by the influenza bacillus, and is almost exactly the same form as that by *Streptococcus hemolyticus* after measles. That gave rise to the question whether the measles epidemic was really influenza. Some workers said that it was. I think that measles is often followed by a streptococcus infection of the lung. I do not think that the pathologic picture is a precise one or that it is exclusively recognizable as one of influenza, with, perhaps, the exception of the hyaline deposit in the bronchioles.

DR. CHANNING FROTHINGHAM, Boston: It would be skating on rather thin ice to base a diagnosis on the lung picture. The dilatation of the air spaces and the hyaline line are characteristic, however.

### The Therapeutic Effects of Visible and Ultraviolet Rays of Various Wave Lengths

DR. ALFRED F. HESS, New York: Ultraviolet rays possess remarkable therapeutic power in tuberculosis and in rickets of both human beings and animals. Cod liver oil can be given as a specific in rickets, and with the addition of ultraviolet ray therapy it seems certain that rickets can be rooted out from our large cities before many years have passed. It does not matter whether the ultraviolet rays proceed from natural sunlight or from the carbon arc lamp or other sources. Experiments have been made to discover the particular radiation that brings about this result. The dosage with the carbon arc lamp is given at a distance of 3 feet for three minutes. Black material absorbs more ultraviolet light than white material, and window glass placed in front of the rays prevents them filtering through, so that a child might just as well be in a cellar as behind window glass when exposed to sunlight. In winter, a very much smaller amount of protective rays is received, so that it does not make so much difference whether the child is kept outside or not. Rickets is more or less of a seasonal disease, and reaches its peak in March, gradually diminishing during the summer. New York receives twice as much sunlight as London for every month of the year.

DISCUSSION

DR. HAVEN EMERSON, New York: We have no estimations on the actual amount of sunlight in this country, but it is calculated that, in English cities, 50 per cent. of sunlight is obscured by smoke. In Pittsburgh, 40 per cent. of sunlight is excluded on account of smoke. There must be a similar prevention, to a lesser degree, in New York and Cleveland. In regard to the amount of soot fall in large cities, this varies from 300 tons to 1,300 tons yearly to each square mile, in five of the largest cities. Forty-six tons is represented as finely divided tar. So far there have been no studies made bearing on the incidence of disease in relation to the amount of smoke cloud. City health authorities should make some study of the specific relationship between disease and pollution of the air. The air must be cleaned out as we clean out the water supply. That is the only utility that we have not cleaned out.

### Hyperglycemia and Hypertension

DR. W. W. HERRICK, New York: In the average case of diabetes mellitus, the blood pressure is low; but in the elderly obese patient with arteriosclerosis, the blood pressure is high. From 10 to 25 per cent. of these people show a definite hyperglycemia, and constitute the borderline between hypertension and diabetes. They have a high sugar threshold. These are different from the essential hypertension cases. I have been impressed with the fact that these cases of obesity with hyperglycemia have often arisen from an ill balanced diet. These patients have been told that they must have diminished protein, and consequently they ingest more starchy foods. The effect on elderly persons with poor tolerance for glucose is dangerous. A condition of arteriosclerosis arises, with overstrain of the pancreas. These people are usually ambulatory office patients with circulatory embarrassment on account of obesity. If they are put on the diet that maintains the blood sugar at a normal level, loss of weight will result and there will be lowered blood pressure and less cardiovascular strain. An interesting point in blood chemistry is that the concentration of crystalloids in the blood is related to blood pressure. In plotting the curves of glucose and chlorid content of the blood, there is a definite relation between the two. There is a precise inverse concentration of chlorids and of sugar. Protein has heretofore borne all the odium in hypertension cases, but the possibility of overfeeding with carbohydrate in a certain class of cases has not been mentioned.

DISCUSSION

DR. H. O. MOSENTHAL, New York: We are gradually getting to the point of view that there may be an effect on the nervous system which stimulates the heart and arteries to increased action, thereby producing increased blood pressure. There is a tendency in diabetes to increased blood pressure. The question of compensatory rise and fall in the crystalloids of the blood, so that when the sugar declines, the salt content rises, is a fascinating field for study. A careful study of the crystalloids of the blood may show that control of the blood sugar may have far-reaching effects.

DR. W. S. THAYER, Baltimore: The problem that confronts the clinician, when these overfat, hypertonic people come to him, is to get them in the best possible physical condition, with reduction of weight and improvement of muscles. Most of them say that they have had all red meats cut out of the diet. If this person is rubbed, massaged and exercised, and the diet cut down till he loses weight, he feels much better. We are likely to think too much in terms of one article of food. We do not know everything about any one article of food.

DR. SOLOMON SOLIS COHEN, Philadelphia: I had a woman under my care from her sixty-eighth to her seventy-sixth year of age. Her complaint was sciatica. Examination showed that she had glycosuria and hyperglycemia and a very high blood pressure: systolic, 250; diastolic, 125. The woman was very obese. The blood sugar and glycosuria were controlled by diet. The blood sugar was never less than 13, however. The glycosuria disappeared. This woman was subject to recurrent attacks of pulmonary edema, controllable only by powerful doses of aconite. The minute the drug was withdrawn, the attacks returned. At the age of 72, she had acute bronchopneumonia, from which she recovered, and for two years the pressure remained at 150. It then went up to 200, and she finally died. The interesting point is the effect of the pneumonic poison in reducing the pressure, and the continued reduced pressure after the pneumonic poison had been withdrawn.

*(To be continued)*

---

# *Current Medical Literature*

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Medical Sciences, Philadelphia

**165:** 469-624 (April) 1923

Histologic Changes in Lymph Glands Following Exposure to Radium. J. C. Mottram, London.—p. 469.

Permeability of Intestinal Mucosa to Certain Types of Bacteria, Determined by Cultures from Thoracic Duct. C. S. Williamson and R. O. Brown, Rochester, Minn.—p. 480.

*Study of Bile Obtained by Nonsurgical Biliary Drainage, with Especial Reference to Its Bacteriology. G. M. Piersol and H. L. Bockus, Philadelphia.—p. 486.

*Experiences with Nonsurgical Biliary Drainage (Meltzer-Lyon Test). E. Hollander, New York.—p. 497.

*Studies of Exophthalmic Goiter and Involuntary Nervous System. II. Clinical Manifestations of Disturbances of Involuntary Nervous System (Automatic Imbalance). L. Kessel and H. T. Hyman, New York.—p. 513.

*Spontaneous Variability of Blood Pressure and Effects of Diet on High Blood Pressure, with Special Reference to Sodium Chlorid. H. O. Mosenthal and J. J. Short, New York.—p. 531.

Diabetes Insipidus Following Epidemic Encephalitis with Enormous Polyuria. G. W. Hall, Chicago.—p. 551.

Disfiguring Scars. Prevention and Treatment. G. M. Dorrance and J. W. Bransfield, Philadelphia.—p. 562.

*Trichiniasis, Endemic and Sporadic; Review of Present Status of Treatment of Disease. M. E. Alexander, Waterbury, Conn.—p. 567.

*Blood in Myxedema. E. S. Emery, Jr., Brookline, Mass.—p. 577.

Cancer of Colon. R. P. Sullivan, New York.—p. 583.

**Nonsurgical Biliary Drainage Valuable Diagnostic Aid.**—Piersol and Bockus believe that the method of biliary drainage instituted by Lyon and based on the hypothesis of Meltzer is a useful and practical procedure, and that there is every reason for the belief that the bile obtained in this way is derived from the common bile duct, the gallbladder, the hepatic duct and the biliary capillaries in the order given. The diseased condition of the gallbladder and the bile ducts can be recognized in this way by a microscopic and bacteriologic study of the bile, which under pathologic conditions shows significant alterations. However, the information obtained by nonsurgical biliary drainage is only a diagnostic adjunct, and in no sense should take the place of a careful history and complete physical examination.

**Value of Meltzer-Lyon Test: Nonsurgical Biliary Drainage.**—The practicability of the test is presented by Hollander in seventeen operative cases. He believes that in many cases the definite diagnosis of gallbladder disease cannot be made by any other method. Since gallbladder disease, with its protean clinical manifestations, is a frequent cause of intra-abdominal symptoms (second only to disease of the appendix), this test should be included as a routine in the study of gastro-intestinal cases. Because of its bland action on the duodenal mucosa, 5 per cent. peptone is suggested for diagnosis in preference to strongly hypertonic magnesium sulphate solutions. Attention is drawn to the condition of "ampullospasm" in relation to gallbladder stasis.

**Autonomic Imbalance.**—A study of the clinical manifestations of autonomic imbalance is presented by Kessel and Hyman. The symptoms are strikingly similar to those in exophthalmic goiter. In autonomic imbalance there is never a distinct and continuous elevation of the basal metabolism. This serves as a crucial differential point from exophthalmic goiter. Autonomic imbalance can rarely be arrested permanently. Usually the symptoms may be alleviated, but the diathesis persists.

**Spontaneous Variability of Blood Pressure.**—According to observations made by Mosenthal and Short, marked "spon-

taneous" variations occur in the blood pressure of all persons. In cases of hypertension a very great diminution of arterial pressure usually occurs during periods of mental and physical relaxation. Protein foods do not increase blood pressure. Starchy foods may increase blood pressure indirectly by bringing about obesity. There is no definite evidence in the literature that sodium chlorid raises blood pressure. The level of the blood chlorids bears no relation to blood pressure. In a series of experimental observations, the ingestion of 10 gm. of salt failed to raise the blood pressure in cases of hypertension.

**Trichiniasis Epidemic.**—A small outbreak of trichiniasis is reported by Alexander, affecting thirty-five persons. A clinical analysis is made of fourteen of the more severely ill patients. Blood and other laboratory findings are given with tabulations. High eosinophil blood counts and free, unencysted trichina embryos were found in persons who had partaken of the trichinous pork and yet presented no clinical symptoms of the disease. The author draws attention to the comparative frequency of the disease and to the absolute importance of thorough cooking of pork.

**Blood in Myxedema.**—Fourteen cases of myxedema, in which the history and basal metabolic rate leave no doubt as to the diagnosis, are analyzed by Emery. Of the eleven cases in which red blood cell counts were done, three had essentially a normal number of red cells. Of the eight cases with anemia, the red blood cell count varied from 4,070,000 to 2,280,000, of which seven had a count of about 4,000,000 cells. The hemoglobin was reduced in all the cases, varying from the highest value of 96 per cent. to the lowest value of 65 per cent. In four cases the color index was 1 or over; in six cases it was less than 1. The white cell count varied from 18,000 cells per c.mm. to 4,850 cells. The polymorphonuclear neutrophilic cells fell slightly below the normal values in nine cases. The lymphocytes were normal in number in four cases and decreased in two cases. Eight cases showed both a relative and absolute increase in the small lymphocytes. The eosinophils and basophils seemed to be about normal. Slight anisocytosis and slight poikilocytosis were also reported. There was no relationship between the degree of anemia and the metabolic rate, nor between the degree of anemia and the duration of the disease.

## American Journal of Public Health, Detroit

**13**: 355-440 (May) 1923

Recruiting of Sanitarians for Future Service of State. C. E. A. Winslow, New Haven, Conn.—p. 355.
Medical Profession and Laity from Standpoint of Health Officer. W. S. Rankin, Raleigh, N. C.—p. 360.
Albert's Toluidin Blue as Routine Stain for Diphtheria Bacilli. C. A. Palmerlee, Battle Creek, Mich.—p. 363.
Identification of Bacillus Botulinus and Its Toxin in Culture and Canned Foodstuffs by Serologic Methods. R. A. Kelser.—p. 366.
Decline in Infant Mortality in United States Birth Registration Area, 1915 to 1921. R. M. Woodbury.—p. 377.
Value of Milk Powder Agar in Bacteriologic Laboratory. H. F. Zoller. —p. 384.

## American Journal of Roentgenology and Radium Therapy, New York

**10**: 259-342 (April) 1923

*Pneumoperitoneum. H. H. Carelli, Buenos Aires, Argentine.—p. 259.
*Case of So-Called "Marble Bones"; Review of Literature. W. G. Alexander, Evanston, Ill.—p. 280.
Errors in Interpretations of Lesions of Sinuses. F. M. Law, New York.—p. 301.
Standardization of Roentgen-Ray Exposure Identification. E. S. Blaine, Chicago.—p. 303.
Biologic Coefficient for Aluminum Filter. F. B. Sheldon, Fresno, Calif. —p. 307.
New Device for Retubing Radium Emanation. W. Stenstroem, Buffalo. —p. 311.
*Principles of Radiotherapy of Carcinoma, Especially of Uterine and Mammary Carcinoma. E. Opitz. Freiburg, I. B., Germany.—p. 312.

**Pneumoperitoneum of Great Diagnostic Value.**—Carelli relates his experiences in more than 800 cases of pneumoperitoneum. He has found the method of great diagnostic value and entirely harmless when performed with an appropriate technic, including the procedure adopted in making the pneumoperitoneum and the manner of taking the roentgenograms.

**Marble Bones.**—Alexander's patient is the oldest (43 years) of the eight cases of this disease now on record. In fact, all but two of the eight cases have occurred in children.

**So-Called "Carcinoma Dose" of Roentgen Rays.**—A "carcinoma dose," according to the definition of Seitz and Wintz, that is to say, a curative action on every variety of cancer by a dose of rays of from 90 to 100 per cent. of the erythema skin dose, Opitz asserts, does not exist. However, in the majority of cases of mammary and uterine cancers, retrogression may be expected from the administration of this dose. Experience teaches that frequently repeated irradiations with a dose which does not quite reach the amount of the carcinoma dose are productive of the best permanent results. The most favorable results are observed from a combination of radium and roentgen rays. Over dosage is especially dangerous because it weakens the local as well as the general defensive forces of the body. The best results are only obtainable if the method of irradiation is adjusted to the particular conditions of each individual case.

## Annals of Clinical Medicine, Baltimore

**1**: 141-210 (Nov.) 1922

Diseases of Spleen. W. J. Mayo, Rochester, Minn.—p. 141.
Pathology of Spleen. W. C. Chaney, Rochester, Minn.—p. 146.
Clinical Lecture on Diseases of Blood. H. Z. Giffin, Rochester, Minn. —p. 151.
Radium in Treatment of Leukemia. M. B. Bonta, Rochester, Minn.— p. 155.
General Aspects of Early Diagnosis of Pernicious Anemia. T. L. Szlapka, Rochester, Minn.—p. 157.
Neurologic Aspects of Early Diagnosis of Pernicious Anemia. H. W. Woltman, Rochester, Minn.—p. 159.
Wassermann Reaction. A. H. Sanford, Rochester, Minn.—p. 161.
Primary Carcinoma of Liver: Report of Three Cases. J. A. Lichty and D. G. Richey, Pittsburgh.—p. 164.
Advantages of Examining Fasting Stomach in Gastro-Intestinal Diagnosis. E. G. Gaither, Baltimore.—p. 170.
Specific Hypersensitiveness as Common Cause of Illness. W. W. Duke, Kansas City, Mo.—p. 178.
Antenatal Care of Pregnant Women. W. N. Rowley, Rochester, Minn. —p. 196.
Significance of a Routine Examination of Eye Grounds. W. L. Benedict, Rochester, Minn.—p. 200.
Breasts of Mothers of Newly Born. L. R. DeBuys, New Orleans.— p. 204.

**1**: 273-335 (March) 1923

*Human Botulism: Studies in Outbreak of Twenty-Nine Instances. B. R. Corbus, M. Wells and F. P. Currier, Grand Rapids, Mich.— p. 273.
Palpation in Outlining of Organs and Determining Pathologic Conditions Causing Different Degrees of Density in Same Organ: Light Touch Palpation. F. M. Pottenger, Monrovia, Calif.—p. 294.
Mongolism. Importance of Early Recognition and Treatment. N. P. Barnes, Washington, D. C.—p. 302.
Paroxysmal Angiospasm Dolorosa. J. H. Comroe, York, Pa.—p. 313.
*Auricular Flutter in Case of Mitral Stenosis. W. J. Wilson, Detroit. —p. 322.
*Life Expectancy with Mitral Stenosis. F. A. Willius, Rochester, Minn. —p. 326.

**Epidemic of Botulism.**—There is reported by Corbus et al. an outbreak of twenty-nine cases of botulinus intoxication among persons who had eaten canned spinach in which type A botulinus toxin was present. A brief historical account of the occurrence of symptoms, and a rather detailed report of the onset and duration of the principal symptoms is made, including systematic neurologic examinations. A contribution to knowledge of the pathology of botulism in man is made in the report of the pathologic findings in the brains of the three fatal cases. The use of polyvalent botulinus antitoxic serum and also of the type A serum is described, with the conclusion that this specific agent is of definite value in the treatment of such cases. The use of pituitary extract hypodermically is reported as a valuable adjunct in the treatment of the severe constipation occurring in many of these cases, which is seemingly not relieved by castor oil and other usual procedures. The mortality in this group of cases was 10.3 per cent.

**Auricular Flutter in Mitral Stenosis.**—A case of auricular flutter is reported by Wilson which occurred in a patient suffering from mitral stenosis, who presented voice changes evidently due to engorgement of the pulmonary artery and consequent impingement on the left recurrent laryngeal nerve. The value of squills was demonstrated in this case, when

digitalis, unaided, failed to alter the rhythm after 120 minims had been given for five days, for, on addition of 3 drams of squills, the ventricular rate dropped to 72, and hereafter the rate was controlled by smaller doses of digitalis. No period of auricular fibrillation was observed during the course of treatment. Both percussion and roentgen-ray study demonstrated that during the period of flutter, the heart area as a whole was markedly reduced.

**Life Expectancy with Mitral Stenosis.**—The cardiac mortality with mitral stenosis in Willius' series of cases was as follows: Complete series, 470 cases, cardiac mortality, 36.8 per cent. after an average of 15.7 months. Mitral stenosis with auricular fibrillation, 116 cases, cardiac mortality 56.6 per cent. after an average of 22.8 months. Mitral stenosis with presystolic or diastolic apical murmur, 253 cases, cardiac mortality 29.0 per cent. after an average of 17.1 months. Mitral stenosis with presystolic or diastolic and apical systolic murmur, 197 cases, cardiac mortality 45.5 per cent. after an average of 13.7 months. Significant T wave negativity, fifty cases, cardiac mortality, 62.5 per cent. after an average of 12.1 months.

## Annals of Surgery, Philadelphia

**77:** 385-512 (April) 1923

Lymphangioma of Neck. Report of Two Cases. J. E. Thompson, and V. H. Keiller, Galveston, Texas.—p. 385.
Ligation of Inferior Thyroid Artery. J. L. De Courcy, Cincinnati.—p. 397.
Empyema Thoracis. H. P. Brown, Jr., Philadelphia.—p. 401.
*Experimental Production of Peptic Ulcer. F. C. Mann, and C. S. Williamson, Rochester, Minn.—p. 409.
Relationship Between Certain Forms of Intestinal Obstruction, Chronic Peritonitis and Chronic Multiple Serositis. C. N. Dowd, New York.—p. 423.
Case of Gastrocolic Fistula. G. P. Pratt, Omaha.—p. 433.
Sliding Hernias of Cecum and Appendix in Children. V. C. David, Chicago.—p. 438.
Massive Ventral Hernia with Fecal Fistula. H. S. Villars, Washington, D. C.—p. 445.
Double Kidney. D. N. Eisendrath, Chicago.—p. 450.
*Sarcoma of Uterus. P. J. Reel and P. H. Charlton, Columbus, Ohio.—p. 476.
Case of Separation of Upper Epiphysis of Tibia. A. Gibson, Winnipeg, Canada.—p. 485.
Spondylolisthesis. Report of Case. S. Kleinberg, New York.—p. 490.

**Experimental Production of Gastric Ulcer.**—Experiments were devised by Mann and Williamson for diverting the secretions which neutralize the gastric juice as it leaves the stomach to another portion of the intestine removed from the point of emergence of the acid. Under such conditions typical subacute or chronic peptic ulcers, quite comparable pathologically to that found in man, developed in the intestinal mucosa just adjacent to the gastric mucosa in a high percentage of cases.

**Sarcoma of Uterus.**—Of the eleven cases forming the basis of Reel and Charlton's study, nine presented grossly the picture of definite multiple fibroids. The gross section of these revealed in the majority of instances an area of apparent sarcomatous change enclosed within one of the fibroid masses. It was not uncommon to find a multinodular uterus with but one nodule showing sarcomatous transformation. This would tend to strengthen the contention that a sarcoma may arise in a preexisting fibroid. One of the remaining two was found to be a distinct globular mass, protruding into and occupying most of the cavity of the uterus. The consistency of this tumor was soft, friable, and on gross section it presented the typical yellowish color which seems to be characteristic of the endometrial or mucosal type of sarcoma. The remaining specimen presented a diffuse growth involving the anterior and lateral walls of the uterus, with a marked invasion of the peri-uterine structures, which was of the above-mentioned yellowish hue.

## Archives of Occupational Therapy, Baltimore

**2:** 87-170 (April) 1923

*Occupational Therapy for Men in Convalescent Period. F. Brush.—p. 87.
Form of Occupational Therapy Chart. J. S. Plant, Boston.—p. 99.
Workshop in a General Hospital. W. Brainerd, Chicago.—p. 109.
Ward Work in a General Hospital. E. Hassenstein, Chicago.—p. 115.

**Occupational Therapy for Convalescents.**—Brush's report is based on the convalescent treatment of nearly 20,000 men and boys in a country institution for a term of seven years. The kind of patient grades from the moderately defective up to persons of high breeding and ability. Almost every ailment and subnormal condition is represented. The average stay is under twenty days, and varied from one to ten weeks, as determined by frequent study of the individual, and to some degree by his preferences, home calls, etc. A preliminary rest reduces the average application time of this therapy to about two weeks only. All regular occupation is for one hour only, from 10:30 to 11:30 a. m. Cottage routine adds another half hour. The prescription is for one of five details—"out," "light out," "sitting," "shops," or as "aides." "Out" means work about the gardens, grounds or buildings. "Light out" is picking up of litter, vine and grass trimming, some gardening, weed digging, and the like. "Sitting" refers to basketry, small cement ware, library, studio, toy making, vegetable preparation, etc. The "shops" are for carpentry and general repair, toys, painting, cement goods, canvas hammocks, tailoring, cobbling and barbering. The patient aides are carefully chosen for cottage helping, policing, athletic and group leadership, mail handling, assistance in the surgery and offices, errands, etc. Pay occupation, of from three to five hours daily, is given (often urged or prescribed) to a few for special curative reasons.

## Arkansas Medical Society Journal, Little Rock

**19:** 205-222 (April) 1923

Mobilization of Stiff Joints. W. C. Campbell, Memphis, Tenn.—p. 205.
Rational Vaccine Therapy in Ear Infections. L. H. Lanier, Texarkana.—p. 207.
Peptic Ulcer. J. H. Phipps, Clarendon.—p. 211.
Constipation Treated by Excitation of Anal Reflex.—p. 213.

## California State Journal of Medicine, San Francisco

**21:** 97-144 (March) 1923

Pasteur's Contribution to Chemistry. C. Alsberg, Washington, D. C.—p. 97.
Some of Fundamental Contributions of Pasteur to Bacteriology. W. L. Holman, Palo Alto.—p. 99.
Pasteur's Contribution to Anthrax, Vaccination and Evolution of a Principle of Active Immunization. J. G. Fitzgerald.—p. 101.
Pasteur's Discovery of Preventive Treatment for Rabies. W. H. Kellogg, Berkeley.—p. 104.
Necessity for More Accurate Data in Surgeon's Permanent Disability Report. F. E. Raynes, San Francisco.—p. 109.
*Alienist and Expert Testimony. E. H. Williams, Los Angeles.—p. 111.
Gonorrhea in Women. G. K. Herzog, San Francisco.—p. 113.
So-Called Chauffeur's Fracture. P. Stephens, Los Angeles.—p. 115.
Removal of Pus Tubes and Saving of Ovaries, and Suspension of Uterus. F. P. Canac-Marquis, San Francisco.—p. 117.
Preoperative Examination. F. F. Gundrum and J. B. Harris, Sacramento.—p. 121.
*Epigastric Tug. M. L. Emerson, Oakland.—p. 123.
Suicide. J. T. Fisher, Los Angeles.—p. 126.

**Alienist and Expert Testimony.**—Williams urges as a remedy for the present inadequate, ineffectual procedures in presumably insanity cases that a law be passed, as suggested repeatedly by legal, medical and lay organizations, providing that in cases of suspected insanity, criminal or otherwise, the actual condition of the patient is to be determined, not by a jury of laymen, but by a commission of trained observers who are competent to judge in such matters and who are appointed by a judge to determine the one point as to whether or not the patient is insane. The physicians would receive the same remuneration, whatever their decision, so that there could be no question about their opinions being influenced by a monetary consideration. Williams says that there seem to be four very explicit reasons why such a law always gets clogged and sidetracked in the legislative machinery and fails to get through. These four reasons are: (1) The opposition of certain influential criminal lawyers who would be deprived of an opportunity to show their skill and oratory if such a law were passed; (2) the sensational physician, who is in effect a professional witness, and who would lose the glamour and publicity of a court trial if his statements were confined to an unobtrusive report, confided to a judge; (3) a certain class of judges in the criminal courts who glory in the publicity given by the newspapers in public trials; and (4) the general indifference of the public at large to anything that concerns insanity, except on those sporadic occasions when insanity is the defense in some notorious trial.

**Epigastric Tug.**—Epigastric tug, according to Emerson, is not uncommon but frequently it is unrecognized. Neither the patient's symptoms nor the physical findings fit the more commonly thought of surgical pictures. The pain and discomfort are entirely disproportionate to what sometimes can be demonstrated, yet the lesions disclosed at operation, and the subsequent relief, are sufficient proof that epigastric tug on the falciform ligament may be responsible for pain more often than one might imagine. Examination reveals only a small subcutaneous tumor in the linea alba, between the umbilicus and ensiform cartilage. These small tumors are sometimes spoken of as epigastric hernias, or preperitoneal areolar tumors, or simple lipomas. The condition, however, is not an epigastric hernia. It is a small areolar tumor coming through the linea alba between the umbilicus and the ensiform cartilage. The fibers of the linea alba run longitudinally, obliquely and transversely. The transverse fibers are the strongest, and not infrequently have gaps between them. The openings, or gaps, between the transverse fibers of the linea alba are the site of the type of hernia responsible for the tug, and they allow the subperitoneal fat to escape but not always to return. At operation the herniated fat is found to have a constricted pedicle firmly grasped by the fibers of the slit in the linea alba. The peritoneum does not protrude and is separated from the linea alba by the transversalis fascia, but between the two is a certain proportion of fat, and it is this, the next adjacent tissue to the weak spots in the linea alba, that forces its way through and becomes entrapped. Emerson is of the opinion that the first cause of the small areolar tumor in the upper linea alba is encouraged by the blood vessels passing through the transversalis fascia and aponeurosis of the linea alba. Prolongations of the fascia follow these blood vessels, later followed by small globules of fat from the areolar tissue which, gradually accumulating in number, sooner or later become a recognized mass. As this mass of fat globules increases in size, it then becomes organized with either cicatricial or semifibrous bands, often forming a glistening capsule and simulating a true hernial sac. The mass flattens out in a button-like or mushroom shaped head, causing resistance to the constant tugging of the flexible falciform ligament, and this, under the strain of the more violent intra-abdominal stress, causes the so-called epigastric tug, with more or less severe or intermittent pain referred to this region.

## Endocrinology, Los Angeles

**7**: 225-378 (March) 1923

*Absence of Prostate Associated with Endocrine Disease, Notably Hypopituitarism; Histories of Eighteen Cases. H. Lisser, San Francisco.—p. 225.
*Diagnosis and Treatment of Thyroid Disease as Controlled by Metabolic Rate. A. H. Rowe, Oakland, Calif.—p. 256.
Experiments on Endocrinology of Sexual Glands. K. Sand, Copenhagen.—p. 273.
Biologic and Anatomic Studies of Nuptial Excrescence and Bidder's Organ of Toad (Bufo Bufo Japonicus-Schlegel). N. Takahashi, Japan.—p. 302.
*Pilocarpin and Atropin Tests in Functional Exploration of Visceral Nervous System. P. Escudero, Buenos Aires.—p. 305.
*Calcium Content of Blood of Thyroidectomized Animals. M. Parhon, Jassy, Roumania.—p. 311.
Correlation Between Creatinin and Total Nitrogen Elimination in Dystrophia Adiposo-Genitalis. J. W. Rauth, Washington, D. C.—p. 313.

**Absence of Prostate with Endocrine Disease.**—Lisser reports eight cases of preadolescent hypopituitarism of the Levi-Lorain type of infantilism; five cases of preadolescent hypopituitarism of the Froehlich type—dystrophia adiposogenitalis; two cases of dyspituitarism (gigantism and infantilism, Neurath-Cushing Type), and three cases of eunuchoidism in which the prostate was either absent or very small. Lisser states that the prostate is large enough normally in childhood to be easily felt, and pediatricians especially are urged to make rectal examinations in boys who show stigmata of infantilism.

**Metabolism in Thyroid Disease.**—After the constant use of basal metabolic rate determinations for a period of more than three years, Rowe is convinced of their value in the diagnosis and treatment of both hyperthyroid and hypothyroid states. The borderline cases especially can be diagnosed, and the etiology arrived at, far earlier than would be possible without its aid. As a guide for medical, surgical, or roentgen-ray treatment in hperthyroidism, the metabolic rate is indispensable. As a means of determining the advisability of thyroid treatment in cases of obesity and in hypothyroid states, as well as regulating the amount of thyroid given, indirect calorimetry has given an invaluable guide. Finally, in investigation, it already has yielded much information about thyroid secretion and disease which is of great aid.

**Action of Pilocarpin on Nervous System.**—Escudero summarizes his observations as follows: Pilocarpin acts on both sections of the autonomic nerve system; it provokes increased salivary secretion through parasympathetic and sweating through sympathetic nerve fibers. Sweating provoked by the injection of 0.01 gm. pilocarpin is no proof of parasympathetic innervation of the sweat glands. Parasympathetic irritability must be examined by injecting only 2 mg. pilocarpin; it is considered increased when this dose provokes 50 c.c. or more salivary secretion. Subcutaneous injection of 0.001 gm. atropin does not modify the pulse rate in normal cases. An increase of pulse rate from 10 to 40 per minute is observed in cases of diminished vagus tone. Paradoxical reaction is evidenced in cases of vagotonia.

**Calcium Content of Blood of Thyroidectomized Animals.**—Parhon investigated the calcium content of the blood of three sheep thyroidectomized at the age of 6 weeks. The blood for analysis was taken one year after operation. The calcium was determined according to Neumann's method. It was found that the calcium content of the blood in the thyroidectomized animals is less than that of the normal controls. This calcium diminution in the blood of the thyroidectomized animals may explain in part the tendency to hemorrhage in thyroidal insufficiency. Likewise, one can attribute to calcium deficiency such disorders as urticaria, pruritus and eczema which have developed on a hypothyroid terrain. These disorders disappear on thyroid opotherapy, which apparently regulates the calcium, or the organism in determining its retention, a result also attained by treatment with calcium salts.

## Florida Medical Association Journal, St. Augustine and Jacksonville

**9**: 160-175 (April) 1923

Vaginismus. G. H. Edwards, Orlando, Fla.—p. 163.
Endocrines. W. C. Box, Graceville, Fla.—p. 164.

## Johns Hopkins Hospital Bulletin, Baltimore

**34**: 109-140 (April) 1923

*Experimental Surgery of Thoracic Esophagus. R. T. Miller, Jr., and W. D. W. Andrus, Baltimore.—p. 109.
*Closure of Granulating Wounds with Reverdin-Halsted Grafts. K. Schlaepfer, Baltimore.—p. 114.
Observations on Total Lung Volume and Blood Flow Following Pneumectomy. W. D. W. Andrus, Cincinnati.—p. 119.
Changes in Fallopian Tube During Ovulation Cycle and Early Pregnancy. F. F. Snyder, Baltimore.—p. 121.
Examination of Spinal Accessory Nerves from Case of Bilateral Acquired Spasmodic Torticollis. C. M. Byrnes, Baltimore.—p. 125.
*Existence of More Than Four Iso-Agglutinin Groups in Human Blood. C. G. Guthrie and J. G. Huck, Baltimore.—p. 128.

**Experimental Surgery of Thoracic Esophagus.**—The work reported on by Miller and Andrus demonstrates (*a*) the feasibility of sutures of the esophagus in the dog, (*b*) a fairly satisfactory substitute for at least the lower two-thirds of the tube, and (*c*) the presence of a well developed submucosa in the human esophagus. With these facts at hand it would seem that efforts to develop the obvious surgical possibilities are to be encouraged and that persistence may well be rewarded by success in the management of cancer of the human esophagus.

**Use of Reverdin-Halsted Grafts.**—Schlaepfer asserts that every infected wound not suitable for secondary closure can be successfully covered with a very resistant, elastic skin by means of the Reverdin-Halsted transplantation. A thorough preliminary treatment with surgical solution of chlorinated soda, persisted in until relative sterility is obtained, is followed by grafting with small, deep grafts. This method is the technic of choice in treating defects following extensive

laceration of the soft parts with secondary necrosis and suppuration, the grooves resulting from sequestrotomy for chronic osteomyelitis, and some cases with granulating areas after unsuccessful plastic operations for empyema. This method has also proved efficacious in the treatment of roentgen-ray burns and of trophic nonspecific ulcers of long standing which have proven refractory to all other measures.

**Third Iso-Agglutinin and Iso-Agglutinogen.**—Guthrie and Huck present evidence that the popular belief concerning the existence of four, and only four, iso-agglutinin groups is incorrect. The presence of only two iso-agglutinins and two iso-agglultinogens in human blood is inadequate to explain their findings. By direct tests and by absorption experiments, the existence of a third iso-agglutinin and a third iso-agglutinogen has been demonstrated. Although recognizing the possibility that there may be stilly other iso-agglutinins and iso-agglutinogens in human blood, the authors have found nothing thus far to indicate their existence; their observations have shown, however, that there are at least three of each. With three iso-agglutinins and three iso-agglutinogens, twenty-seven combinations are biologically possible. It is believed that these findings have a practical bearing on transfusion and furnish a plausible explanation for some of the hitherto unexplained posttransfusion reactions.

## Journal of Industrial Hygiene, Boston

**4**: 501-536 (April) 1923

Therapeutic Use and Toxicity of Picric Acid: Report of Two Toxic Cases. G. T. Pack, New Haven, Conn.—p. 501.
Effect of Aniline Black Dyeing on Factory Workers. R. Williamson, Manchester, Eng.—p. 507.
Treatment of Constipation. F. W. Dershimer, Cleveland.—p. 518.
Jet Dust Counting Apparatus. J. S. Owens, London.—p. 522.

## Journal of Laboratory and Clinical Medicine, St. Louis

**8**: 425-492 (April) 1923

*White Mice and Assay of Insulin. D. T. Fraser, Toronto, Can.—p. 425.
Clinical and Laboratory Procedures in Pediatrics. A. Levinson, Chicago.—p. 429.
*Safety of Local Anesthetics: with Particular Reference to Cocain and Butyn. C. Nielsen and J. A. Higgins, Chicago.—p. 440.
*Atresia of Pulmonary Artery in Congenitally Defective Heart. W. B. Stewart, Rochester, Minn.—p. 454.
Increase in Virulence of Nonpathogenic Micro-Organism by Chemical Substances. R. H. Lee and L. Arnold, Chicago.—p. 462.
*Influence of Intravenous Administration of Mercury Benzoate on Wassermann Reaction of Apparently Normal Persons. A. Strickler, Philadelphia.—p. 465.
Diagnostic Value of Kahn Test for Syphilis. M. S. Grant, Ft. Wayne, Ind.—p. 468.
*Large Mononuclear Index in Chronic Appendicitis. L. O. Dutton, Memphis, Tenn.—p. 473.
Employment of Vegetable Extracts in Wassermann Reaction. E. Weiss, Chicago.—p. 476.
Wassermann Systems. A. Faller, Cincinnati.—p. 480.

**Assay of Insulin.**—The correlation of the unit as determined by the use of rabbits with the unit as determined by the use of mice has been attempted by Fraser; 0.0025 c.c. is approximately the equivalent of 5 (rabbit) units per c.c.

**Treatment of Poisoning by Local Anesthetics.**—Various drugs were investigated by Nielsen and Higgins for their detoxication action in the treatment of poisoning by the local anesthetics of the so-called "cocain group" (alkamin esters of aromatic acids). Pituitary solution appeared to be superior to the other drugs investigated, and holds out promise both as a preventive of undesirable symptoms from sublethal doses as well as an antidote in poisoning by fatal doses of these local anesthetics. Judging from the experiments, small therapeutic subcutaneous doses of pituitary solution, injected simultaneously with the local anesthetic, are sufficient to eliminate the fall in blood pressure from therapeutic doses as well as the convulsions from higher doses, and death from fatal doses. Used as an antidote when convulsions had already set in, it was effective only when administered intravenously. It should, of course, not be used in pregnant women or in high blood pressure cases.

**Case of Congenitally Defective Heart.**—A case of congenital atresia of the pulmonary artery, pulmonary valve, and infundibulum of the right ventricle is described in conjunction with other developmental anomalies: origin of the aorta from the right ventricle; presence of a patent ductus arteriosus, and defective ventricular and auricular septums; complete cleft palate and right harelip. The ascending aorta, as far as the opening of the ductus arteriosus, thus served as both a pulmonary artery and an aorta, the ductus arteriosus conveying blood from the aorta to the lungs through the widely patent right and left branches of the atretic pulmonary artery. The child lived four and one-half months in fairly good health, and died only after a plastic operation. Prior to operation she had shown intermittent cyanosis and attacks of strangulation.

**Effect of Mercurials on Wassermann Reaction.**—It is Strickler's belief that the intravenous administration of the mercurials does not influence the Wassermann reaction. As many as thirty-seven injections were given to a patient without producing a positive complement fixation test. In one instance, in which the Wassermann reaction was 4 plus before treatment was instituted, the administration of twenty intravenous mercurial injections failed to influence the Wassermann reaction. A patient suffering with psoriasis, developed a 4 plus reaction after the fourth mercurial injection and this reaction persisted after eighteen injections of the remedy. The hypothesis offered by Strickler in explanation of his findings is as follows: It is generally admitted that the arsenicals have an affinity for the liver. It is also generally believed that whatever the nature of the substance which causes a positive Wassermann may be, it is probably a substance of lipoidal nature. It would appear probable that the arsenicals in their action on the liver cells may so alter their functions, as to cause either a change in the lipoids, or the lipoidal substance may flood the blood stream so that the serum, when examined at that particular time, produces a positive complement-fixation test. On the other hand, it has definitely been established that the mercurials have a great affinity for the kidney structure. The mercurials do not profoundly influence the liver structure. As a result, the administration of the mercurials does not influence the Wassermann reaction of normal persons in a positive manner.

**Diagnostic Value of Mononuclear Count in Chronic Appendicitis.**—A series of cases of chronic appendicitis were studied by Dutton to determine the value of an increased mononuclear count as a diagnostic aid. In 47.5 per cent., or perhaps 55.9 per cent., of these cases, the large mononuclears were increased in number, whereas only 15 per cent. of acute cases showed a mononuclear increase. To determine the possibility of a mononuclear increase being selective for a chronic infection of any site, rather than of the appendix only, two series of cases were studied (one of salpingitis and one of cholecystitis), revealing that 30.5 per cent. and 46.6 per cent., respectively, of these cases showed a mononuclear increase of more than 5 per cent. In these series of cases the large lymphocytes were studied. In one series (cholecystitis) it was found that ten, or 58.8 per cent., of the seventeen chronic cases showed high large lymphocyte counts, and this suggested the possibility of a significance of some kind. However, none was established in the other conditions as the lymphocyte count was too variable.

## Journal of Parasitology, Urbana, Ill.

**9**: 109-180 (March) 1923

Normal and Pathologic Histology of Ventriculus of Honey Bee, with Special Reference to Infection with Nosema Apis. M. Hertig.—p. 109.
Morphology and Life Cycle of Crithidia Gerridis Patton in Water-Strider, Gerris Remigis Say. E. R. Becker.—p. 141.
Intestinal Flagellate of Trout. H. S. Davis.—p. 153.
*Effects of Bite of Latrodectus Mactans Fabr. W. J. Baerg.—p. 161.
Limberneck of Fowls Produced by Fly Larvae. F. C. Bishopp.—p. 170.
Telosentis, A New Genus of Acanthocephala from Southern Europe. H. J. Van Cleave, Urbana, Ill.—p. 174.
Degenerating Cestode Cysts in Mackerel. E. Linton.—p. 176.
Skate Trypanosome from Woods Hole. R. Kudo.—p. 179.

**Effect of Spider Bite.**—Personal experience in the treatment of this spider bite, has convinced Baerg that the hot water bath, as hot as the patient can endure, is by far the best measure in treatment. He recommends a hot bath, from three to four times in twenty-four hours, even if the patient must have assistance to get to and from the bathroom. It is important that the region where the bite took place be kept in hot water during the bath. If the bite is on the hand or foot, it might be well to bathe in hot water much oftener.

The treatment with potassium permanganate had no perceptible effect. The evidence presented shows that the bite of the Black Widow is likely to cause decidedly unpleasant, and under certain circumstances, dangerous results.

## Journal of Social Hygiene, New York

**9:** 193-256 (April) 1923

Marriages of Unmarried Mothers. M. D. Mudgett, Minneapolis.—p. 193.
International Efforts for Prevention of Traffic in Women and Children. B. Johnson.—p. 200.
Community Education in Social Hygiene. T. W. Galloway.—p. 216.
Social Service Ward for Women and Children: Partial Solution of Problems of Venereal Diseases. V. C. Pedersen, New York.—p. 227.

## Journal of Urology, Baltimore

**9:** 289-395 (April) 1923

*Renal Counterbalance. Significance of Disuse Atrophy. F. Hinman, San Francisco.—p. 289.
Megalo-ureter: Importance of Ureterovesical Valve. J. R. Caulk, St. Louis.—p. 315.
*Grave Renal Hematurias Due to Blood Vessel Changes in Papillae. Report of Unusual Case Requiring Nephrectomy. G. MacGowan, Los Angeles.—p. 331.
*Bone Suppuration the Basic Cause of Renal Calculus Following War Wounds. H. E. Paul, Toronto.—p. 345.
Pyonephrosis. I. Simons, Nashville.—p. 367.

**Significance of Renal Disuse Atrophy.**—Three points are emphasized by Hinman: (1) It is useless to attempt preservation or repair of an unilateral injury, in the face of a healthy and complete compensatory hypertrophy on the opposite side. Therefore, attempts to repair must be made before anatomic compensation is complete, and in distinctly unilateral lesions the outcome is always questionable because even a partial compensation of a healthy kidney may, in time, become complete through the competitive elimination of its less efficient repair mate. It is only in those conditions in which the competition between the two sides is equalized qualitatively by the conservative repair procedure on the diseased side that a cooperate counterbalance can be expected. (2) In bilateral conditions conservation of renal tissue should always be given the greatest consideration. (3) In a case of bilateral injury with a successful unilateral repair, but in which there has been delay in the second operation, the problem may closely simulate that of unilateral injury with opposite compensatory hypertrophy, and in place of a conservative procedure, as originally planned, radical nephrectomy may be to the best interest of the patient.

**Hematuria Due to Renal Papillary Varix.**—MacGowan reports a case of unilateral exhausting and painful hematuria, in which the kidney was removed. The lesions were very similar to those reported as renal papillary varix, following chronic inflammation of the pyramids.

**Bone Suppuration as Cause of Renal Calculus.**—In the twenty cases reported by Paul, there was a very definite etiologic relationship between an existing bone suppuration and the formation of renal calculi. Approximately 90 per cent. of these cases showed definite signs of infection in the urine from the affected kidney, which in Paul's opinion, is fairly good presumptive evidence that infection is a definite contributing cause, if not the most important cause, of renal calculi. Lack of drainage in the upper urinary tract is seemingly not an important primary cause of the formation of renal calculi following such a systemic infection as osteomyelitis. Sedentary habits of life, have direct relationship to calculus formation, when such formation follows a systemic infection such as osteomyelitis. If every case of nephrolithiasis could be investigated with sufficient thoroughness, Paul is convinced that a history of a preceding systemic infection could be elicited.

## Laryngoscope, St. Louis

**33:** 241-327 (April) 1923

Radical Operation in Chronic Suppurative Otitis Media. E. B. Dench, New York.—p. 241.
Blood Transfusion for Otologic Diseases. L. J. Unger, New York.—p. 250.
Id. H. Hays, New York.—p. 253.
Case of Tumor of Cerebellum that Gave Negative Results to Tests of Labyrinth and Labyrinthine Tract. B. Rosenbluth, New York.—p. 257.
Nicotin Poisoning of Inner Ear; Preliminary Report from Animal Experimentation and Microscopic Findings. O. Glogau, New York.—p. 262.
Chronic Catarrh of Nasopharynx. D. J. G. Wishart, Toronto, Ont.—p. 267.
After-Results of Different Methods of Tonsillectomy, with Special Reference to La Force Operation as Compared with Ordinary Dissection with Snare. Critical Review of 200 Cases. R. Patterson, Knoxville, Tenn.—p. 280.
Two Cases of Descending Retro-Esophageal Abscess with Phlegmon of Neck and Threatening Medastinitis. External Operation Through Vascular Route. Prophylactic Collar Mediastinotomy. Recovery. O. Glogau, New York.—p. 290.
Iowa Pitch Range Audiometer and Its Uses. C. E. Seashore, Washington, D. C.—p. 295.
New Septal Chisel. S. L. Olsho, Philadelphia.—p. 308.
Study of Tonal Ranges in Lesions of Acoustic Nerve and Its End Organ. L. W. Dean and C. C. Bunch, Iowa City.—p. 309.

## New York Medical Journal and Medical Record

**117:** 517-584 (May 2) 1923

Mitral Stenosis. J. Barr, London.—p. 517.
Minimum Symptoms and Signs Necessary to Make Diagnosis of Organic Heart Disease. W. S. Thayer, Baltimore.—p. 525.
Morphology and Function of Capillaries. E. P. Boas, New York.—p. 528.
Present State of Our Knowledge of Quinidin Therapy in Treatment of Fibrillating Auricle. L. F. Bishop, New York.—p. 532.
Blood Pressure in Angina Pectoris. A. Blackhall-Morison, London.—p. 535.
Factors Concerned in Production of Heart Sounds and Murmurs. E. I. Fogel, Cincinnati.—p. 536.
Cardiospasm Associated with Esophageal Diverticula. P. P. Vinson, Rochester, Minn.—p. 540.
Circulatory System in Tuberculosis. F. M. Pottenger, Monrovia, Calif.—p. 541.
Use of Digitalis in Hearts with Regular Rhythm. L. T. Gager, New York.—p. 543.
Heart Disease in Relation to Marriage and Pregnancy. W. W. Herrick, New York.—p. 546.
Quinidin in Auricular Fibrillation. D. Felberbaum and O. Brenner, New York.—p. 548.
Control of Paroxysmal Tachycardia by Quinidin Sulphate. C. C. Wolferth, Philadelphia.—p. 552.
Myocardial Degenerations and Their Treatment. A. E. Roussel, Philadelphia.—p. 554.
Examination of Heart for Life Insurance. F. W. Price, London.—p. 559.

## Oklahoma State Medical Association Journal, Muskogee

**16:** 109-137 (May) 1923

Study of Records with Special Reference to Cause of Death. L. J. Moorman, Oklahoma City.—p. 109.
Inoperable Carcinoma of Cervix; Report of Three Cases in Which Radiotherapy Arrested Disease. S. D. Neely, Muskogee.—p. 113.
Cancer Metastasis. A. L. Blesh, Oklahoma City.—p. 121.
Case of Renal Hematuria Apparently Cured by Distension of Kidney Pelvis. J. Z. Mraz, Oklahoma City.—p. 122.
Case of Reflex Vomiting. Large Cystic Ovary. D. D. Paulus, Oklahoma City.—p. 123.

## Rhode Island Medical Journal, Providence

**6:** 67-82 (May) 1923

Biologic Aspects of Hay-Fever. H. S. Bernton, Washington, D. C.—p. 67.
Chiropractic Philosophy. M. W. Thewlis, Providence, R. I.—p. 78.

## West Virginia Medical Journal, Huntington

**17:** 465-520 (May) 1923

*Abdominal Pregnancy with Living Child. J. E. Rader, Huntington.—p. 465.
Radium in Inoperable Carcinoma of Uterus. J. E. Hubbard, Huntington.—p. 473.
Premature Labor. H. G. Steele, Bluefield.—p. 478.
Focal Infections and Systemic Disease. A. Arkin.—p. 480.
Diagnosis and Treatment of Stomach Diseases from Standpoint of General Practitioner. O. F. Covert, Moundsville.—p. 486.

**Abdominal Pregnancy with Living Child.**—In Rader's case a full term live baby was delivered by abdominal section. The placental attachment was extensive and widespread over the intestines and pelvic organs. The membranes had not ruptured. The mother had had slight bleeding once or twice, at about the first and second months. Cramplike pains caused her to call her physician at about the eighth month, and he diagnosed "abdominal pregnancy." Rader saw the woman in consultation and advised immediate operation but she would not consent. About ten days later, when the patient finally consented to operation, and all arrangements had been made to transfer her, she was in what appeared to be labor. The laparotomy was performed in her home.

## FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

### Archives of Radiology and Electrotherapy, London

**27:** 289-320 (March) 1923

Association of Surgeon and Radiologist in Bone Grafting. S. J. D. Buston.—p. 289.
Method for Opaque Meal Examination of Stomach. S. G. Scott.—p. 304.
*Pathologic Changes Produced in Those Rendered Unconscious by Electrical Shock and Treatment of Such Cases. B. Spilsbury.—p. 316.
*Id. S. Jellinek.—p. 316.

**Cause of Death in Electric Shock.**—The most reasonable explanation of deaths occurring from electric shock, Spilsbury says, is that they are due to a sensory stimulation causing paralysis of the respiratory center. This justifies the use of artificial respiration. Certainly, there must be some cases—and there might be many—in which death is only apparent, and in which real death only supervenes from the lack of some means of carrying on the essential function of the body.

**Id.**—From the point of view of time four types of death are recognized by Jellinek: (1) instant death (décès instantané); (2) slow death (décès lente); (3) interrupted death (décès interrompu); (4) retarded death (décès retardé). From the point of view of mechanism, or succession of disturbances that follow on the electric shock, four types can again be recognized: (1) death by shock; (2) death by excessive irritation or paralysis of nervous system; (3) death by paralysis of the heart; (4) death by paralysis of the respiratory system. Many victims, rendered unconscious and apparently dead for the longest time, make a recovery, showing that the lesions are not so severe as to make recovery impossible. Artificial respiration should be resorted to at once as it is of the greatest importance, not only for the lungs, but also for the heart and its circulation.

### British Journal of Medical Psychology, London

**3:** 81-152 (April) 1923

"Reality-Feeling" in Phantasies of Insane. H. Devine.—p. 81.
Ontogenesis of Introvert and Extrovert Tendencies. A. G. Ikin.—p. 95.
Reliability of Psycho-Analytic Findings. G. Bose.—p. 105.
Psychoneurotic Aspects of Miners' Nystagmus. H. W. Eddison.—p. 116.

### British Medical Journal, London

**1:** 705-746 (April 28) 1923

*Pancreatitis and Association with Cholecystitis and Gall Stones. G. Barling.—p. 705.
*Treatment of Diabetes Mellitus. O. Leyton.—p. 707.
*Influence of Insulin on Normal Metabolism in Man. C. H. Kallaway and T. A. Hughes.—p. 710.
*Some Problems of Diabetes Mellitus. L. B. Winter and W. Smith.—p. 711.
*Administration of Insulin by Inunction. S. V. Telfer.—p. 715.
Subcutaneous Rupture of Intestine. Two Cases. R. P. Rowlands.—p. 716.
*Case of Intestinal Stasis. C. D. Maitland.—p. 717.
Treatment of Strangulated Obturator Hernia. A. R. Short.—p. 718.
Meningitis Due to Pfeiffer's Bacillus. E. N. Butler.—p. 719.

**Catarrhal Jaundice Caused by Pancreas Inflammation.**—The condition which occurs not infrequently in young people and which is spoken of as catarrhal jaundice and is ascribed to plugging of the common duct by inspissated mucus, Barling believes to be caused by an inflammation of the head of the pancreas compressing the common bile duct.

**Treatment of Diabetes Mellitus.**—Leyton says that man can live fairly comfortably on 30 gm. of carbohydrate with unlimited protein and fat. If a person with severe diabetes be given enough insulin to ensure his utilizing 30 gm. of carbohydrate he will escape the symptoms of diabetes mellitus, but his blood sugar will be above 0.15 per cent. during the greater part of the twenty-four hours, which will cause overstimulation of the small amount of pancreas which he still possesses and gradual deterioration. The final stage will be total destruction of the pancreas; then the patient will have to rely for all the sugar burning material on supplies from the outside. In case these fail, life would be extremely short. This is the danger which should be avoided by strictly correlating the diet with the amount of insulin available from the pancreas of the patient together with that injected.

**Influence of Insulin on Normal Man.**—Kallaway and Hughes contend that the rise in respiratory quotient is due, in part at least, to transformation of glucose into some complex poorer in oxygen, and that the metabolic rate, as calculated from the oxygen used and the respiratory quotient, is much above its real value.

**Yeast Extract in Diabetes Mellitus.**—Experimental evidence has convinced Winter and Smith that extract of yeast has an effect similar to that produced by insulin, when tested on animals and on diabetic persons. Insulin convulsions in rabbits may be relieved, and the animals restored to normal, by injection of epinephrin.

**Administration of Insulin by Inunction.**—The chief conclusion reached by Telfer appears to be that insulin can be introduced into the blood stream by means of inunction, but this method of administration necessitates the use of much larger quantities of the drug than those required to produce comparable effects by subcutaneous injection. It is worthy of note, however, that in estimating the effects produced account must be taken chiefly of the duration of the hypoglycemia. A sudden reduction, followed by an abrupt rise in the blood sugar, indicates a transient effect. The ideal method of utilization would appear to be indicated by a prolonged period of hypoglycemia maintained by slow absorption. The results also suggest that advantage might be taken of this method to utilize crude insulin extracts. At the present time, the cost of isolating the drug in a pure and active state for the purpose of hypodermic medication is such as to restrict seriously its application on a large scale. It is possible that more liberal use of cruder materials might, with advantage, be made by means of inunction.

**Intestinal Stasis.**—The points of special interest in Maitland's case were: (1) an unduly long and mobile pelvic colon; (2) Lane's "last" kink; (3) a descending mesocolon; (4) proptosed dilated cecum and ascending colon with mesocolon; (5) Jackson's membrane, and its remarkable density; (6) inability of the cecum and ascending colon to propel their contents.

### Journal of Laryngology and Otology, Edinburgh

**38:** 229-284 (May) 1923

Meat and Fish Bones Impacted in Esophagus. T. Guthrie.—p. 229.
Operative Procedures in Treatment of Stenosis of Larynx Caused by Bilateral Paralysis of Abductor Muscles. I. Moore.—p. 236.
Treatment of Chronic Middle Ear Suppuration by Electric Ionization. S. Young.—p. 245.
Two Cases of Injury to Ear Following on Operation for Acute Mastoiditis. F. G. Wrigely.—p. 252.

### Journal of Obstetrics and Gynæcology of the British Empire, Manchester

**30:** 1-116 (Spring No.) 1923

*Improved Method of Prophylactic Treatment of Eclampsia. Stroganoff.—p. 1.
Sounds of Fetal Heart. G. A. Stephens.—p. 32.
Food Deficiency Disease Simulating Pregnancy Toxemia. J. P. Maxwell.—p. 34.
Primary Carcinoma of Vagina Treated by Hysterovaginectomy. D. Dougal.—p. 38.
Case of Primary Carcinoma of Vagina. E. Holland.—p. 40.
Squamous Epithelioma of Vagina. T. G. Stevens.—p. 42.
Adenoma of Vagina Fornix Simulating Cancer of Cervix. H. R. Spencer.—p. 44.
Occlusion of Lower Part of Rectum Due to Administration of Simple Enema During Labor. W. F. Shaw.—p. 47.
Case of Abdominal Pregnancy. A. E. Pinniger.—p. 49.

**Prophylactic Treatment of Eclampsia.**—The fundamental idea of Stroganoff's method, which he first described in 1897, is that the spasmodic fits play a preeminent part in the results of the disease, that the number of the fits must be decreased, and that every possible thing must be done to prevent their repetition, since every successive fit brings the patient nearer death. The greater the number of fits the greater the mortality. Assuming that eclampsia is the result of the reciprocal

action of two factors—(1) the appearance of toxins in the blood of a woman which act on the nervous system, (2) the reaction to them by the nervous system—treatment must be directed to lessening the toxins in the blood, and to diminishing the irritability of the nervous system. Stroganoff recommends the removal, if possible, of all sources of irritation from the patient, or reducing them to the minimum. To reduce the fits gradually, or if possible to prevent their recurrence altogether, he applies narcotics, morphin hydrochlorid, chloral hydrate, and chloroform, in the following order: At the beginning of the treatment, hypodermic injections of 0.015 gm. morphin hydrochlorid under chloroform. In one hour's time: 2.0 gm. chloral hydrate in addition to from 200 to 250.0 c.c. of saline solution per rectum, and, when conscious, by mouth, with from 100 to 110 c.c. of milk. In three hours' time from the beginning of treatment, hypodermic injections of 0.015 gm. morphin, usually under chloroform. After seven hours from the beginning of treatment: 2.0 gm. chloral hydrate. After thirteen hours from the beginning of treatment: 1.5 gm. chloral hydrate without chloroform if there have not been fits for twelve hours and there are no prodromata. After twenty-one hours from the beginning of treatment: 1.5 gm. chloral hydrate without chloroform if there have not been fits for twelve hours and there are no prodromata. Thus during one day the patient receives from 5.0 to 9.0 gm. chloral hydrate, and from 0.02 to 0.04 gm. morphin under the skin and repeated administration of chloroform together with 500 c.c. of milk and 500 c.c. of saline solution. In exceptional cases, if the patients were very strong, such quantities were given for twelve hours if the fits continued, or if there were symptoms of them. In the majority of cases failures are due to insufficient dosage at the beginning of treatment.

## Journal of Physiology, London

**27:** 113-252 (March) 1923

Influence of Carbon Dioxid on Interchange of Ions Between Corpuscles and Serum of Blood. J. Mellanby and C. C. Wood.—p. 113.
*Pituitary Secretion. W. E. Dixon.—p. 129.
Variations in Carbon Dioxid Content of Blood Constituents in Relation to Meals. E. C. Dodds and J. McIntosh.—p. 139.
*Effect of Lactation on Ovulation. M. Ross-Johnson and E. E. Hewer.—p. 143.
*Nature of Histamin Action. R. J. S. McDowall.—p. 146.
Respiratory Centers in Cat. T. Lumsden.—p. 153.
Studies in Muscle Activity. I. Static Effort. E. P. Cathcart, E. M. Bedale and G. McCallum.—p. 161.
Photographic Kymograph. J. B. Haycraft.—p. 175.
Situation and Extent of Purely Yellow Zone in Spectrum. G. Fr. Gothlin.—p. 181.
Simple Apparatus for Producing Mechanical Hemolysis and Its Practical Use. D. J. de Waard.—p. 195.
Effect of Concentration of Red Blood Corpuscles on Dissociation Curve of Blood. J. Barcroft and K. Uyeno.—p. 200.
Studies of Respiration and Circulation in Cat. III. Effect of Rise of Body Temperature. K. Uyeno.—p. 203.
Analysis of Production of Heat in Certain Muscles of Hedgehog. W. Hartree and R. J. S. McDowall.—p. 210.
Part Played by Ducts in Pancreatic Secretion. L. K. Korovitsky.—p. 215.
*Change in Nature of Blood Sugar of Diabetics Caused by Insulin. W. D. Forrest, W. Smith and L. B. Winter.—p. 224.
*Influence of Nutritional Condition of Animal on Hypoglycemia Produced by Insulin. N. A. McCormick, J. J. R. Macleod, E. C. Noble and K. O'Brien.—p. 234.

**Pituitary Secretion.**—The conditions which cause secretion of the pituitary gland to meet the needs of the animal economy are discussed by Dixon. He summarizes as follows: The pituitary gland secretes into the cerebrospinal fluid. Pituitary extract injected into the circulation causes the gland to secrete. Pituitary extract injected into the cerebrospinal fluid rapidly causes the ordinary systemic effects by passing into the general circulation. A balance is struck between the amount in the blood and cerebrospinal fluid. Ovarian extract specifically excites the gland to secrete. The effect is immediate and lasts only two or three minutes. The active substance is not in the corpus luteum. Duodenal extract causes a secretion after one hour, but neither so much nor so constant as that caused by ovarian extract; the effect, however, is more prolonged. Some suggestions as to its significance are offered. Pituitary extract increases tone in the small intestine, and diminishes tone in the large intestine.

**Effect of Lactation on Ovulation.**—Johnson and Hewer are convinced that ovulation does occur during lactation in the albino rat. In all their experiments the mother was allowed to suckle her young, and was killed three weeks after the birth of the litter. The appearance of the ovaries was very constant, and in all, young corpora lutea were found. Some old corpora lutea were found, more or less well preserved, some vacuolar; these probably originated from the ovulation directly following labor.

**Nature of Histamin Action.**—The parallelism between the disappearance under deep anesthesia of the rise of pressure in the pulmonary artery and the rise of venous pressure which occurs as the result of the injection of a small dose of histamin, McDowall believes suggests that they are both due to the same cause, namely, pulmonary constriction which is effected by the anesthetic. Other results are given which support this view.

**Change in Nature of Diabetic Blood Sugar by Insulin.**—The lowering of the blood sugar of diabetics caused by injections of insulin is held by these authors probably to be due to a change in the equilibrium between alpha-beta and gamma glucose in the blood tending to increase formation of glucose which can then be stored or utilized. Forrest, Smith and Winter have made some observations to determine how far this reactive form of glucose can be detected in diabetic blood after injections of insulin. The insulin used was prepared by Collip's method. Owing to the difficulty of obtaining sufficient pancreas of any one animal, those from the ox, sheep, and pig were mixed. All cases were of a severe type, and in every case the sample taken before administration of insulin showed that the polarimetric value of the final sugar solution was in excess of that obtained by the copper reducing method, thus confirming previous results. With one exception, determinations after insulin show that this ratio has been reduced materially. While the ratio is by no means comparable to that obtained from normal persons, it shows that there must be considerably more normal blood sugar present after the administration of insulin. As was previously found, the curve of polarimeter readings in the cases before the insulin tended, if anything, to fall; after insulin injections the curve rose definitely in three cases. A possible explanation of the action of insulin advanced by the authors is that it causes shifting of the equilibrium in the direction of increased gamma glucose formation. The increased amount of gamma glucose available is then stored or utilized. The increased utilization of sugar by the diabetic after injection of insulin may be put down to the increased formation of gamma glucose. The difference in the ratio polarimeter to copper reduction of the sugars of diabetic blood which the authors found after insulin is in support of this view. The severity of diabetes is probably inversely proportional to the amount of gamma glucose which the body is capable of forming. When excessive amounts of insulin are administered the lowering of the blood sugar may take place to an excessive degree. That a continual supply of insulin is necessary for the working of the enzyme is shown by the fact that the blood sugar invariably rose between the insulin injections.

**Influence of Nutrition on Insulin Hypoglycemia.**—The features of the results of the experiments made by the authors that stand out most prominently are: the immediate onset in the decline in blood sugar, its practical constancy during the half-hour following the injection of insulin, and the variability, both in the time of onset and in the rate of recovery, which afterward occurs. Facts are cited which show that it is impossible to make a precise physiologic assay of insulin by determining the percentage of blood sugar at varying periods following its injection. An approximate assay can best be arrived at by measuring the blood sugar ninety minutes and three hours following the injection in animals from which food has been withheld for twenty-four hours. When considerable doses of insulin are given, toxic symptoms (convulsions) may not appear until the percentage of blood sugar has fallen considerably below the level of 0.045 at which they most frequently occur with weaker doses. The occurrence of convulsions cannot, therefore, be depended on as an exclusive method of physiologic assay.

## Lancet, London

1: 883-938 (May 5) 1923

*Diagnosis and Treatment of Angina Pectoris. C. Allbutt.—p. 883.
*Some Gynecologic Operations in Relation to Life Assurance. A. E. Giles.—p. 885.
Treatment of Clavicle Fracture by Indirect Violence. F. Romer.—p. 889.
*Renal Function in Patients with Retinitis and High Blood Pressure. A. W. M. Ellis and J. R. Marrack.—p. 891.
Germicidal Qualities of Sodium Di-Iodosalicylate (Diosal). W. M. Crofton.—p. 893.
*Etiology of Bakers' Dermatitis. O. De Jong.—p. 894.
Effect of Detoxicated Vaccines on Persistence of Diphtheria Bacillus. W. T. Benson.—p. 895.

**Angina Pectoris.**—The chief postulates advanced by Allbutt are: (1) that in the very large majority of cases, say 90 per cent., angina pectoris is due to disease of the thoracic aorta, and especially of its outer investment wherein lie the sensory end-organs that regulate blood pressure; (2) that death in angina pectoris is due ordinarily to vagus inhibition; that is, to the shock of the pain; (3) that the coronary arteries and the myocardium have nothing to do with the pain of angina, but much to do with its mortality. In younger persons, in whom the myocardium is healthy, the heart usually survives the inhibition, so that in them angina, as often as in the case of syphilitic aorta, for example, may be a terrible, if not a fatal, disease. Angina proper is rare in women. On the other hand, the so-called "pseudo-angina" is frequent among women, more frequent by far than in men. It seems to be a storm in the brachial plexus, intercosto-humeral, Wrisberg and phrenic nerves. The angina patient again is generally, though not always, pallid or pallascent; the pseudo-anginose are flushed in the face. And these patients are for the most part young, or not elderly, under middle age, or but little beyond it, and the attacks may be determined by annoyance, the catamenial period, or other upset. The heart and pulse are not, as in angina proper, tranquil, but throb rapidly, often with an irregular rhythm. The heart may be felt as if leaping out of the body. Palpitation in angina proper does not occur. Between the attacks, the physician will fail to detect any sign of disease or degeneration, or none, at any rate, suggestive of cardio-arterial disease. If such signs can be detected the diagnosis must be revised. It is more difficult to distiguish between simulations of angina and its slighter degrees (angina mitis), or eccentric manifestations of a true angina. Allbutt's principle of cure in angina is to treat the case as if it were one of aneurysm—by absolute rest proportionate to the severity and stubbornness of the case, with due modification of diet as may be required for the healing of the injured vessel.

**Gynecologic Operations in Relation to Life Insurance.**—In view of the extension of the practice of life insurance and of sickness insurance among women, and of the great increase of gynecologic operations during the last thirty years, it is natural that medical referees of insurance companies should wish to know the influence of such operations on subsequent health and expectation of life. Giles' inquiry as to the state of health after operations, in about 800 women on whom he has operated, has shown that about 70 per cent. of patients regain normal health. The highest proportion is found in cases of conservative procedures and of complete removal of organs. Unilateral operations on the uterine appendages show the lowest proportion of complete recoveries, the chances of complete cure being subordinate to the preservation of the functions of womanhood. There is a disturbance of the nervous system, shown especially by the affection of memory, and in most cases temporary, in a proportion varying from 18 per cent., of cases in which the operation was of short duration, to 50 per cent. in the case of long operations. There is a risk that further operations may be required, which may be put down as a 10 per cent. risk, comprising direct sequelae of the operation and independent conditions in about equal proportions. The risk is greatest after operations for inflammatory disease of the tubes and after unilateral operations on the tubes and ovaries; and it is lowest after the operation of hysterectomy for benign conditions. Expectation of life, as to cases of operation for malignant disease must be regarded as bad, the risk of recurrence varying from 10 to 75 per cent. After operations for inflammatory disease the expectation of life is fairly good, but it is impaired by the liability to sequelae. Patients who have had benign tumors removed may be considered as good risks, as the chance of complications that may lead to a fatal result is negligible. Lastly, patients who have had operations that prevent further pregnancy have had an adverse factor in the expectation of life eliminated.

**Retinitis Associated with High Blood Pressure and Renal Disease.**—An analysis of nineteen cases of retinitis associated with high blood pressure and renal disease was made by Ellis and Marrack. In this series of cases, nine were patients with chronic interstitial nephritis, and ten were patients with hyperpiesis. The cases suggest that hyperpiesis is a more common cause of retinitis than chronic interstitial nephritis. The authors believe that hyperpiesis is the more common disease of the two. Whether the cause of retinitis is the same in both conditions and what is its nature they are unable to say. The only common factor in the two conditions would appear to be the high blood pressure. All of the first group died and five of the second group died.

**Salt Is Cause of Bakers' Dermatitis.**—DeJong suggests that salt may justifiably be regarded as the direct cause of bakers' dermatitis, but the patient must display an idiosyncrasy for the salt as the condition is not found in all bakers. It is interesting to note that dermatitis occurs in people other than bakers who are habitually engaged in the handling of salt—for example, herring salters and packers, and rock salt workers. A man suffering can be cured under simple treatment on being removed from his work if there are no secondary symptoms, but on his return to work he will relapse.

## Medical Journal of Australia, Sydney

1: 309-336 (March) 1923

*Bacillus Coli Vaccine Intravenously in Rheumatoid Arthritis. H. Laurie.—p. 309.
*Behavior of White Blood Corpuscles After Intravenous Bacillus Coli Communis Therapy. G. E. Foreman.—p. 314.
*Diagnosis of Pulmonary Syphilis. S. W. Patterson.—p. 316.

**Colon Bacillus Vaccine in Rheumatoid Arthritis.**—Laurie has used colon bacillus vaccine intravenously in various types of cases of rheumatoid arthritis and ascribes good results to its use. In cases of acute rheumatoid arthritis, recovery from the attack was more or less rapid and complete and the patients were finally discharged without any disability. Of eleven cases of subacute rheumatoid arthritis, eight cleared up entirely. Three could be classed as merely improved. Fifteen patients with chronic rheumatoid arthritis improved so far as pain, stiffness and range of movement were concerned, the acute and subacute conditions clearing up. The method of treatment was used in a few cases of uncomplicated osteo-arthritis with little or no result. In this series of cases, 426 injection were given and in only one case were there any alarming symptoms. In this case there were cyanosis and dyspnea at the height of the reaction.

**Effect of Colon Bacillus Therapy on Leukocytes.**—The effect of injections of colon bacillus vaccine, as shown by a study of the blood cells, according to Foreman, are: (1) diminution of polymorphonuclear cells; (2) consequent reaction in the shape of a leukocytosis, the predominant cells being of an embryonic type. This suggests a rapid response by the hematopoietic system to the introduction of the vaccine into the blood stream.

**Syphilis of Lung.**—In a series of patients with symptoms of intrathoracic disease suspected to be hydatid, Bryce and Patterson found that the serum, while failing to react to the hydatid complement fixation test, reacted to the Wassermann test. This led to an analysis of the ultimate diagnosis. One case proved to be hydatid disease in a syphilitic, in which "hydatid antibody" in the blood was not detected. Three were probably cases of aneurysm of the aorta. Four were cases of tuberculosis of the lungs in syphilitic patients. Further studies were then carried out on patients in hospital and at postmortem examination. A brief account of the pathology and symptomatology of pulmonary syphilis is given, based on an analysis of a series of eighteen cases coming to postmortem examination and of the clinical histories of fourteen other patients; all of these showed evidence of dis-

ease of the lung and their blood serum reacted to the Wassermann test. Five patients who were subjected to intensive antisyphilitic treatment, showed considerable improvement.

## Medical Journal of South Africa, Johannesburg

**18:** 191-222 (March) 1923

Review of Some New Landmarks in Public Health. A. J. Orenstein.—p. 192.
Use of Simple Cow's Milk Mixtures in Infant Feeding. E. P. Baumann.—p. 197.
Epidemiology of Malaria and Blackwater Fever in Portugese East Africa Between 1901-1920. L. Soromenho.—p. 201.
*Suppression of Bladderworm and Tapeworm Disease. W. Watkins-Pritchford —p. 207.

**Treatment of Tenia Infestation.**—The following routine treatment has always proved successful in Pitchford's experience, both with *Tenia solium* and *T. saginata.* Ninety mimims of liquid extract of male fern, not more than 12 months old, are stirred into 1½ ounces of milk and placed by the patient at his bedside in readiness to be taken on the following morning. No food is eaten after 8 p. m. Calomel, 1 grain, is taken at bedtime. One third of the male fern draught is taken at 5 a. m., one at 6 a. m. and one at 7 a. m. Calomel, 1 grain, is taken at 8 a. m. A light breakfast may be taken at 9 a. m.

## Annales de l'Institut Pasteur, Paris

**37:** 229-328 (March) 1923

*Vaccination Against Sheep-Pox. J. Bridré and A. Boquet.—p. 229.
Culture Media for Pyocyaneus Bacilli. A. Liot.—p. 234.
*Atoxyl in Treatment of Sleeping Sickness. Ouzilleau and Lefrou.—p. 275.
Idem. Lefrou.—p. 294.
Research on the Streptococcus Equi. Brocq-Rousseu et al.—p. 322.

**Ten Years of Vaccination Against Sheep-Pox.**—The sensitized virus has been used to vaccinate 8,000,000 sheep in Algeria and half a million in France and Spain. Italy and Greece have also adopted this method of vaccination against sheep-pox. It confers immunity in forty-eight hours which lasts for a year. Its action is solely preventive, but has proved reliable and harmless. Any epizootic of sheep-pox can thus be stamped out in two weeks, the authors reiterate.

**Treatment of African Sleeping Sickness.**—Ouzilleau and Lefrou have found most effectual atoxyl in large doses, given during the first stage of the disease. If the disease has reached the second stage, there is little hope from any treatment. Conditions then are analogous to those with general paralysis. The essential point is to cure the first stage and not allow the second stage to develop. In the six cases of injury of the eyes from the atoxyl, the patients were all in the second period, that is, they already showed the dreaded meningeal reaction.

## Annales de Médecine, Paris

**13:** 189-288 (March) 1923

Blood Pressure Sign of Old Injury to Head. Villaret and Théodoresco.—p. 189.
*Treatment of Pleurisy with Effusion. Krummenacher.—p. 204.
Flexion Paraplegia of Cerebral Origin. Alajouanine.—p. 243.
Charcot's Crystals in Eosinophilia. De Jong and Romieu.—p. 276.

**Calcium Chlorid in Treatment of Pleurisy with Effusion.**—Krummenacher has confirmed Blum's statements in regard to the remarkable action of calcium chlorid in inflammatory affections of the serous membranes. It hastens resorption of the effusion and reduces the temperature promptly while promoting diuresis. In acute cases of pleurisy, it sometimes restored conditions to clinically normal in twenty-four hours. The ten cases described in detail show that the drug has to be given in large doses: 15 gm. of the dry calcium chlorid in twenty-four hours, repeated the second day if the fever persists, and reduced by one half if the fever subsides. This treatment should not be kept up for more than five or six days; if kept up too long, the general condition suffers, the mineral balance becoming too much upset. The taste is disguised by giving two spoonfuls of the concentrated solution (30 gm. of the dry salt in 100 gm. of water) in coffee, and drinking a little coffee afterward. The effect does not seem much better when given by the vein except when there is a very large effusion. For intravenous infusion, the dose has to be more than 2 or 2.5 gm. in a 5 per cent. solution. In one case an intravenous infusion of 3 gm. had a remarkably prompt and permanent curative action, but in a case of septic bronchopneumonia, thrombosis in the brachial vein developed two days after the injection by the vein. Otherwise none of the patients presented any by-effects, and the general condition improved. There was no flaring up of any tuberculous process in the lung. It is important to have salt dropped entirely or partially from the diet during the calcium treatment, and for two or three days thereafter.

## Annales des Maladies Vénériennes, Paris

**18:** 177-256 (March) 1923

*Deforming Spondylitis of Gonorrheal Origin. E. Ramel.—p. 177.
Bursitis of Olecranon from Sleeping Embraced. Belgodère.—p. 214.
Fistulas from Soft Chancres. Goubeau.—p. 217.

**Gonorrhea and Spondylitis.**—Ramel believes that ankylosis of the vertebrae and even rhizomelic spondylosis are very frequently caused by gonococcus infection. It is necessary to think of this possibility since the prognosis depends on early and intensive treatment.

## Archives Franco-Belges de Chirurgie, Brussels

**26:** 193-310 (March) 1923

Technic for Detaching the Duodenum. Vautrin and Fourche.—p. 193.
*Reconstruction of Fractured Olecranon. A. Hannecart.—p. 199.
Fractures of Head of Radius. G. Ferry.—p. 201.
*Tardy Ulnar Paralysis. P. Guibal.—p. 207.
*Surgical Physiology of the Large Intestine. C. Lefebvre.—p. 215.
General Anesthesia with Ethyl Chlorid-Alcohol. R. Reding.—p. 223.
Armless Woman: Ectromelia and Phocomelia. Verdelet and Forton.—p. 236.
Obstetric Depression of Parietal Bone. A. Marique.—p. 242.
*Cicatricial Contracture. M. van Neck.—p. 245.
Bilateral Fracture of the Patella. Bourgom.—p. 258.

**Fixation of Fractured Olecranon.**—Hannecart, in three cases, has successfully applied a wire loop to hold the fragments of the olecranon in place, the wire passing through the triceps tendon and around the radius below the coronoid process. Roentgenograms show the technic.

**Tardy Paralysis of Ulnar Nerve After Fracture of the External Condyle of the Humerus.**—The roentgenograms in a typical case demonstrated that the ulna had become displaced, like the astragalus in a Dupuytren fracture, and in consequence the ulnar nerve was stretched and irritated. Shifting the nerve to the front of the condyle leaves it exposed to further irritation. The simplest and most effectual treatment is by resection of a wedge from the humerus above the condyle. This corrects the valgus deformity, restores practically normal conditions for the ulnar nerve, and the paralysis subsides.

**Surgical Physiology.**—Lefebvre contends that the cecum, and the ascending and the right half of the transverse colon are needed in digestion, a kind of extension of the stomach. They should not be sacrificed except as a last resource. The distal colon is much less important; it serves chiefly as a receptacle.

**Cicatricial Contractures.**—Van Neck discusses the mechanical principles involved in correcting deformity from cicatricial retraction, saying that it requires patience and perseverance on the part of both patient and surgeon. If no benefit is apparent after a month of elastic traction, the cicatricial tissues must be excised. But it is remarkable how many apparently rigid contractures, especially of the fingers, yield to the devices for elastic traction which he illustrates.

## Archives des Maladies du Cœur, Paris

**16:** 161-240 (March) 1923

*Examination of Nervous System of Heart. Daniélopolu and Carniol.—p. 161 and 181.
*Electrocardiogram in Gallop Rhythm. Bordet et al.—p. 205.
Survey on Ligation and Suture of Arteries. Heitz.—p. 216.

**Atropin Test and Orthostatic Tachycardia in Examination of Nervous System of Heart.**—Daniélopolu and Carniol use atropin by intravenous injection, repeated until the subject shows no increased tachycardia. They determine the orthostatic tachycardia, then inject a small amount (0.5 mg.) of atropin to see its action. After this they establish the dose that is necessary to paralyze the vagus, and finally they study the orthostatic tachycardia in this condition. They find val-

uable information regarding the state of both vagus and sympathetic. The method permits classification of disturbances of the vegetative nervous system into six groups: The increased or decreased tonus of one of the cardiac nerves and the more frequent changes of both (amphotony and hypamphotony), are the criteria. Many patients usually classified as pure sympathicotonics or vagotonics belong in reality to the amphotonic group with predominance of one or the other nerve.

**Electrocardiograms in Some Cases of Cantering Rhythm.**—In six patients with cantering rhythm, Bordet, Yacoel and Giroux found a slower auriculoventricular conduction and a shortening of diastole. Electrocardiography allows a more correct prognosis and gives hints for treatment. In severe disturbance of conduction, strophanthin should be preferred, while in modifications of rhythm, digitalis is indicated.

## Bulletin Médical, Paris

**37:** 417-444 (April 14) 1923

*Treatment with Whole Blood or Serum. G. Lyon.—p. 423.
Surgery of Goiter. V. Pauchet.—p. 427.
Bulbar Paralysis After Viper Bite. A. Alexinsky.—p. 430.
Ovarian Extracts. C. Bru.—p. 430.

**37:** 445-474 (April 21) 1923

Psychotherapy. P. E. Lévy.—p. 445.
Chronic Intestinal Stasis. A. C. Guillaume.—p. 463.

**Serotherapy and Hematotherapy.**—Lyon reviews the many indications for treatment with whole blood or blood serum. It may succeed in desensitizing, in hemorrhagic conditions, infections and certain skin affections after other measures have failed. The reason why it succeeds in some cases and fails in others apparently identical, is still a mystery.

## Encéphale, Paris

**18:** 73-144 (Feb.) 1923

*Condition of Sex Organs in Dementia Praecox. F. W. Mott.—p. 73.
Postencephalitic Parkinsonian Syndrome. Claude and Schaeffer.—p. 85.
*Dysthymia in Children. S. de Sanctis.—p. 88. Cont'n.
*Applied Experimental Psychology. J. Abramson.—p. 94.
Senile General Paralysis. Riser and Gay.—p. 101. Conc'n.
*Melancholia with Asthenia and Melanoderma. H. Damaye.—p. 111.
Splanchnic Neurosis; Psychoanalysis and Cure. Martin-Sisteron.—p. 114.
Oculocardiac and Solar Reflexes. H. Claude et al.—p. 127.
The Vegetative Nervous System in Respect to Intoxications. Garrelon and Santenoise.—p. 134.
Study of Nitrogen Differences in Melancholia. Aubel and Badonnel.—p. 135.
Cholesterolemia in Mental Diseases. R. Targowla et al.—p. 138.

**Conditions of the Sex Organs in Dementia Praecox.**—Mott has been studying since 1910 the findings in the reproductive organs in mental disorders, particularly dementia praecox. In thirty-four cases of general paralysis, spermatozoa were found nearly always present, while in thirty-seven cases of dementia praecox, spermatozoa were found in only two cases out of three. The reproductive organs are closely connected with other endocrine glands and his research on suprarenal glands has demonstrated that the medulla of these glands in dementia praecox shows vast deficiency in the genetic formative impulse.

**Dysthymia in Children.**—De Sanctis says that typical melancholia is never present in growing children. On the contrary, it is entirely absent from this period because these symptoms are proper to the third, fifth and sixth decades. Manic-depressive psychoses in a fully developed stage are also rare in children, but simple depressive and agitated conditions, symptomatic of epilepsy, of infectious diseases, etc., are frequent, as are also phrenasthenia and psychasthenia.

**Applied Experimental Psychology.**—Abramson says that teachers are apt to confound two very different things: comprehension and memory, the automatic function. In visiting schools in Germany she noted that there were more boys in the classes for defectives, and more girls in those for the specially gifted. This is not due to greater intelligence on the part of the girls, but to greater application. All agree on the advantages of individual education, but it exists only in theory. Dependence on memory—automatism—is the chief enemy of the abnormal child. The segregation of the backward children has been a great gain for the normal children, to say nothing of the backward themselves. Setting aside clinical causes for the deficiency, which are highly important, she analyzes the features that the teachers can hope to modify. She charts the mental functions for the purpose of discovering the cause for the retarded development. Those occupied with the care of abnormal children complain of their lack of judgment. The automatic memory which stores images without assimilating them is well developed. In some backward children, the lack is not in the intelligence but in the character. In Germany, backward children are often educated by manual training and mathematics, subjects requiring the greatest exactness, which may be termed a treatment of causes instead of symptoms. Binet calls training of this kind "mental orthopedics." It allows children to be grouped by their capacity for development.

**Depressive Melancholia with Asthenia and Melanoderma.**—Damaye's necropsy on the body of a woman who had had melancholia and who had died from pulmonary tuberculosis, showed an adenoma and some tubercles in the suprarenals.

## Gynécologie et Obstétrique, Paris

**7:** 193-272 (March) 1923

Tuberculosis of Ovaries and Pregnancy. Vautrin.—p. 193.
*Prevention of Tuberculosis of New-Born. R. Debré.—p. 199.
Pelvic Varicocele. G. Cotte and D. Jezditch.—p. 205.
*Diagnosis of Tubal and Angular Pregnancy. Douay and Rochat.—p. 216.
*Pulmonary Tuberculosis Associated with Pregnancy. L. Cleisz.—p. 224.

**Prevention of Tuberculosis in the New-Born.**—Debré publishes five observations on infants who were only a short time (thirteen to forty-two days) with their tuberculous mothers. Though the contact was not very intimate, all of these babies died from tuberculosis. He emphasizes the importance of absolute separation from birth.

**Diagnosis of Tubal and Angular Pregnancy.**—Douay and Rochat admit the difficulty of diagnosis between tubal pregnancy and cases with the fetus in an angle of the uterus. The flexion of the normal pregnant uterus, which might simulate it, disappears in the Trendelenburg position. This is more advisable than to attempt a diagnosis by straightening the uterus. An important sign of angular pregnancy is the lateral or anterolateral position of the pregnant side, while in tubal pregnancy the tube falls backward into the retrouterine cavity. The differences in the consistency of the pregnant corner and the rest of the uterus do not occur in tubal pregnancy. If the woman can be kept at the clinic, one should wait and observe; otherwise exploratory laparotomy is advisable.

**Therapeutic Indications in Pulmonary Tuberculosis Associated with Pregnancy.**—Cleisz gives an extensive review on this question, which was the topic of discussion at the Academy of Medicine.

## Médecine, Paris

**4:** 405-480 (March) 1923

Recent Progress in the Pathology of Heart, Vessels, Kidneys and Blood. P. Ribierre.—p. 405.
*Auricular Fibrillation. A. Clerc.—p. 414.
Affection of Aortic Valve in Syphilitic Aortitis. Gallavardin.—p. 419.
*Prognosis of Angina Pectoris. Ribierre and Lecoute.—p. 422.
*Obesity and Hypertension. C. Aubertin.—p. 431.
*Early Radiologic Diagnosis of Aortitis. E. Bordet.—p. 434.
*Pathogenesis of Musical Murmurs. A. Hanns.—p. 438.
Benign Form of Mercuric Chlorid Poisoning. Achard and Rouillard.—p. 444.
*Chronic Nephritis without Albuminuria. F. Rathery.—p. 450.
*Phenolsulphonephthalein Test. P. Merklen.—p. 455.
*Banti's Disease. J. Rieux.—p. 458.
*Sudden Variations of Leukocyte Formula. J. Tinel.—p. 463.
Hemostatics. M. Perrin.—p. 467.
Action of Deep Roentgen Radiation on the Blood. Mouquin.—p. 473.

**Pathogenesis and Treatment of Auricular Fibrillation.**—Clerc agrees with Lewis in attributing the manifestations of complete arrhythmia to a "circus movement" of the excitation in the muscular fibers of the auricle. This phenomenon requires: (1) a sufficiently long circular road; (2) a shortened refractory period, and (3) comparatively slow speed of propagation of the stimulus, because otherwise the stimulus would fail to find, on its return, a tissue ready to respond.

Quinidin diminishes the excitability of the heart muscle, and lengthens the refractory period. Hence its beneficial action on auricular fibrillation. It should always be preceded by cardiotonics. Strophanthus may be preferable to digitalis, because it tends to diminish the number of auricular oscillations.

**Prognosis of Angina Pectoris.**—Ribierre and Leconte point out that the severity of subjective symptoms is not proportional to the severity of the prognosis. Even slight symptoms are important. Angina following exertion is a sign of aortitis. Its prognosis, especially in syphilitics, is less serious than in angina in the supine position, which indicates dilatation and insufficiency of the strained heart. Some patients have no other clinical symptoms, but a change in the depth of the aortic shadow may be found by radioscopy. The distinction between a true angina and a pseudo-angina is inexact and dangerous. Its only use is to calm the patient, whose condition might be seriously impaired if he should hear the diagnosis of "true angina pectoris." A sudden change of position during the examination (from standing to lying) may provoke an attack, and should be avoided.

**Obesity and Hypertension.**—Aubertin has frequently found hypertension in stout persons. It is a complication, not a sequela of obesity, and may be the cause of severe incidents (apoplexy, sudden death).

**Early Radiologic Diagnosis of Aortitis.**—Bordet sometimes found changes in the opacity of the aorta the earliest sign of aortitis, preceding even subjective symptoms.

**Pathogenesis of Musical Murmurs.**—Hanns finds that anatomic lesions are not the cause of the musical murmurs of the heart which resemble the cheeping of chickens. These murmurs depend only on tachycardia and equalization of the pressure on the two faces of the vibrating body.

**Chronic Nephritis Without Albuminuria.**—Rathery warns against declaring the kidneys healthy because of absence of albuminuria. Even a severe nephritis may exist without it. Albuminuria is of little value for diagnosis and prognosis.

**Phenolsulphonephthalein Test.**—Merklen recommends the phenolsulphonephthalein test in nephritis and cardiac disturbances.

**Actual State of the Problem of Banti's Disease.**—Rieux reviews the diagnosis of Banti's disease, and believes that late hereditary syphilis plays an important part in the etiology.

**Sudden Variations of Leukocytic Formula from Physiologic Causes.**—Tinel emphasizes the influence of local conditions on the number and differential count of white cells. Refrigeration of a finger lowers the number; heating increases it. Position of the hand may be an important factor, as also vasomotor changes. Electric stimulation of the ulnar nerve, inhalation of amyl nitrite, compression of the veins, change the number and differential count of white cells. With Santenoise he found a typical hemoclastic crisis produced in a vagotonic by compression of the eyes.

## Paris Médical

**13:** 193-224 (March 3) 1923

Survey on Venereal Diseases in 1923. Milian and Brodier.—p. 193.
*Bone and Joint Manifestations of Syphilis. P. Gastou.—p. 200.
Subcutaneous and Intramuscular Injections of Arsphenamins. Petges.—p. 205.
*Syphilis in the Beginning of Pregnancy. M. Pinard.—p. 206.
Bismuth in Conjugal Syphilis Resistant to Arsenic. Gougerot and Geray.—p. 209.
Aminoarsenophenol Intramuscularly in Syphilis. Sézary and Pernet.—p. 212.
*Treatment of Syphilitic Hemiplegia. G. Milian.—p. 218.
*Hyperalbuminosis in Cerebrospinal Fluid. Bloch.—p. 221.

**Manifestations of Syphilis in Bones and Joints.**—Gastou describes the osteo-articular manifestations of syphilis, and emphasizes the necessity for testing serologically patients with osteophytes and thickening of the periosteum of the long bones and joints.

**Recognition of Syphilis in the Beginning of Pregnancy.**—Pinard demonstrates by clinical histories the frequent mismanagement of "syphilis of decent women." Unexplained natural miscarriages are due to syphilis. The serologic examination should be extended to the husband and even to the parents. Hydramnion, premature delivery, univitelline twins, large babies with large placentas, hypertrophy of the placenta over one sixth of the body weight of the infant should make the physician suspect syphilis. "If a baby nursed at the breast of the mother cries day and night, if it has green diarrhea, habitual vomiting, convulsions, or loses in weight in spite of sufficient milk, look for syphilis and you will find it." The pregnant woman stands mercury and bismuth less well, but arsenic better than other patients. She should receive a series of eight weekly intravenous injections, increasing to 0.6 gm. of arsphenamin. After a rest of two to three weeks a second and after another rest a third series. Less vigorous treatment, especially mercury by mouth, is only a concession to conventional hypocrisy and a menace to the outlook for the infant.

**Treatment of Syphilitic Hemiplegia.**—In spite of Ehrlich's warning, Milian considers energetic treatment with arsphenamin, starting with 0.3 gm. of neo-arsphenamin, and increasing every fifth day by 0.015 gm. up to 1.05 gm. of neo-arsphenamin, the treatment of choice. No time should be lost. To avoid nitritoid crises, he injects 1.5 mg. of epinephrin subcutaneously half an hour and five minutes before the injection of arsphenamin.

**Monosymptomatic Hyperalbuminosis in the Cerebrospinal Fluid of Syphilitics.**—Bloch finds an increase in the protein content of the cerebrospinal fluid above 0.03 per cent., without other signs, not infrequently in syphilis. It can be considered as a symptom only if all other possible causes are excluded. In syphilis, it may be simply a remnant of a cured disease, but such cases should be kept under observation. If the syphilis is recent, the treatment should endeavor to banish the anomaly.

## Presse Médicale, Paris

**31:** 341-352 (April 14) 1923

Eczema of Scalp. R. Sabouraud.—p. 341.
*Meningitis of Otitic Origin. H. Aboulker.—p. 342.
Nonparasitic Cysts of Biliary Apparatus. Sénèque.—p. 346.

**Meningitis of Otitic Origin.**—Aboulker warns that the fate of the patient with ear disease is in the hands of the general practitioner. In his own experience, of 21 cases in which the cerebrospinal fluid was sterile, 6 patients succumbed, while among the 18 recoveries there were 3 septic cases. In some cases the meningitis proved fatal although the spinal fluid was free from micro-organisms, leukocytes and albumin. The findings in the spinal fluid may be entirely different three hours later, demonstrating anew that a biologic reaction is a fragile basis on which to build solid conclusions. Clinical examination will distinguish between a straw fire and a true conflagration. He has had cases in which a large intracranial abscess had persisted for a year at least without interfering with the occupation, and cases of meningitis and phlebitis may be ambulant for months. The clinical picture of Menière's disease is sometimes traceable to a diffuse chronic meningitis of the cerebellopontine angle, and this can be cured by a retromastoid decompression operation. He has found it practicable in dogs to "rinse out the meninges" by leaving the lumbar puncture needle in place and withdrawing small amounts of the fluid at intervals, replacing it with a suitable isotonic solution. He has published a clinical case in which this procedure was applied. There are many reasons, as he explains, why the decompression operation should be at some distance from the infectious focus, preferably in the squamous bone.

## Revue Franç. de Gynécologie et d'Obstét., Paris

**18:** 65-112 (Feb. 10) 1923

*Uterine Fibroma as a Cause of Death. L. Dartigues.—p. 65.
Sedimentation of Blood Corpuscles in Gynecology. P. Gaifami.—p. 87.

**Fibroma of the Uterus as Cause of Death.**—Dartigues, differing from a number of authors who refer to fibroma of the uterus as a benign tumor, says it is a serious affection which, through its complications, may cause death without timely surgical intervention. Death may result through such complications as hemorrhage, cachexia, cardiopathy, fibroma-

tous emboli, local and general infections, sloughing, compression and occlusion, cancerous degeneration, or various complications in pregnancy, and obstetric accidents. Cardiac symptoms, from simple palpitation to fatal syncope, have been observed in 40 per cent. of fibroma patients. Whether radium or surgery should be used in treatment is at this time an open question, but after the great number of successful hysterectomies he has seen performed in cases where radium had failed, he thinks surgery the safest method. The surgical intervention should be preceded and followed by a course of medical treatment.

## Pediatria, Naples

**31:** 289-352 (March 15) 1923

Inaugural Lecture of Pediatrics Course. G. Caronia.—p. 289.
*Syphilis in Four Generations. C. Martelli.—p. 305.
Cutis Laxa. R. Vaglio.—p. 321.
*Rectal Treatment with Arsphenamin in Syphilitic Children. E. Modigliani and V. Castana.—p. 324. Conc'n.

**Syphilis in Four Generations.**—Martelli describes several well founded observations in syphilis in grandchildren and their progeny.

**Rectal Treatment with Arsphenamin in Syphilitic Children.**—Modigliani and Castana report extensively on their favorable experiences with rectal administration of neo-arsphenamin in children.

## Policlinico, Rome

**30:** 265-327 (Feb. 26 and March 5) 1923

*The Doll's Eye Phenomenon. O. Cantelli.—p. 265. Conc'n p. 302.
*Three Cases of "Eruptive Fever." P. Filippella.—p. 270.
Punctures to Reveal Spirochete of Syphilis. Podestà.—p. 273.
Chronic Appendicitis without Acute Stage. C. Romiti.—p. 297.
*Syphilitic Diabetes Mellitus. P. A. Meineri.—p. 307.

**The Doll's Eye Sign.**—Cantelli says that the doll's eye sign in diphtheric paralysis, described in 1921 by Widowitz, is not the same sign described by this name earlier in the same year by himself. The Widowitz sign consists in protrusion of the eyeballs and sluggish movements of the eyeballs and eyelids accompanying them. Cantelli used the term in almost the opposite sense, namely, to express a dissociation between the movements of the head and eyes: As the head is raised the eyes are lowered, and the reverse. He claims that only his sign is new. In cases where the dissociation is between the vertical movements of the head and eyes, the lesion is located in the voluntary muscles, and the sign can be elicited only in voluntary movements of flexion and extension of the head. On the other hand, if the phenomenon is visible only during passive movements, this suggests that the lesion is located in the motor innervation of the muscles of the neck. If it is evident both in voluntary and passive movements, there is reason to suppose that the lesion is located in the posterior longitudinal bundle. From what is known and what can be deduced from theories, it appears probable that only a lesion of this tract can produce the pure doll's eye sign.

**Research in Three Cases of Eruptive Fever.**—Filippella reports further research on the clinical condition to which Carducci, in 1920, gave the name "eruptive fever," an infectious disease of the nature of measles, scarlet fever and typhus. It seems to have the closest analogy with Brill's disease. In the last of his three cases, the response to *Proteus* X 19 was beyond anything yet witnessed with typhus. This he regards as highly significant. Examination of blood showed neither leukocytosis nor leukopenia.

**Syphilitic Diabetes.**—Meineri relates an unusual case of diabetes mellitus of syphilitic origin in a man, aged 46, the fifth year after infection with syphilis. He had taken courses of calomel during these years, but then symptoms of diabetes developed, with symptoms of neurosyphilis. Under intensive arsenical-mercurial-iodid treatment the whole subsided. Treatment as for diabetes had no effect, but under the specific treatment the glucose in urine dropped from 88 to 44 gm. and finally disappeared entirely during the last week of the course. He cites Villaret's recent case in which symptoms of diabetes appeared a few days after the primary chancre. The glycosuria of 422 gm. and the acetonuria rapidly subsided under mercurial treatment. In his case he ascribes the diabetes to syphilitic lesions in the central nervous system. The cerebral symptoms disappeared first, then the glycosuria, but the Wassermann reaction was still strongly positive two months later.

## Riforma Medica, Naples

**39:** 169-192 (Feb. 19) 1923

*Biologic Demonstration of Paternity. L. Lattes.—p. 169.
*Tracheal Displacement in Pulmonary Tuberculosis. A. de Martini.—p. 173.
Bacteremia with Pseudo-Diphtheria Bacilli. C. Ninni.—p. 177.
Poisoning from Carbon Monoxid in Miners. A. Jona and A. Lusso.—p. 180.
Removal of Tumors from the Colon. E. Aievoli.—p. 181.

**Biologic Demonstration of Paternity.**—Lattes and his collaborator Mino, on the basis of later experiments, confirm the value of Ottenberg's theory that if the child's blood has the correct grouping for the alleged parents, then the child may (but not necessarily must) be their offspring. The latest Italian research has shown that the exceptions to this rule amount to only 1 per cent. The discovery can therefore be used in a practical way to settle medicolegal questions of heredity.

**Displacement of the Trachea in the Course of Pulmonary Tuberculosis and Its Clinical Symptomatology.**—De Martini found lateral anterior or posterior displacement of trachea in 36 per cent. of his cases of chronic pulmonary tuberculosis. It is due to the force of the cicatricial contraction after a process of hyperplastic pleuritis. The obliquity of the laryngotracheal axis, Williams' tracheal tone, and the tracheal respiration are the most important clinical symptoms of such displacement.

## Brazil-Medico, Rio de Janeiro

**1:** 187-200 (April 7) 1923

*Bacillary Dysentery at Rio. Gomes de Faria and Genesio Pacheco.—p. 187.
*Ethyl Chlorid in Treatment of Myiasis. Antonio Pedro.—p. 190.
Influenza and the Micro-Organisms of the Air. S. C. da Silva.—p. 190.
Recent French Work on Gastro-Intestinal Pathology. Antoine.—p. 194.

**Bacillary Dysentery at Rio.**—In seventy-seven cases of diarrhea in children, bacilli of the dysentery group were found in 16.8 per cent., and in 32 per cent. of twenty-five cases in adults.

**Treatment of Myiasis.**—Pedro relates the prompt action of ethyl chlorid in clearing the nose, ear or other passage from the larvae of flies. Myiasis is common in Brazil. The myiasis in the nose in one man had induced violent delirium, but four applications of ethyl chlorid resulted in a complete cure. In infested wounds the cure is instantaneous.

## Archivos Latino-Amer. de Pediatría, Buenos Aires

**17:** 81-160 (Feb.) 1923

*Asthma, Tuberculosis and Syphilis. M. Acuña and Garrahan.—p. 81.
Error in Diagnosis of Hydatid Cyst of Lung. Navarro.—p. 90.
Infant Welfare Work at Montevideo. J. A. Bauza.—p. 96.
Emphysema in Child with Tuberculous Bronchopneumonia. Pelfort.—p. 115.
*Toxic Paralysis of Leg. J. M. Jorge and M. Gamboa.—p. 119.
*Desquamating Erythrodermia. R. Berro.—p. 122.
Pneumococcus Meningitis; Four Cases. N. Leone Bloise.—p. 129.
Acquired Syphilis in Children. M. A. Jáureguy.—p. 139.

**Relations Between Asthma, Tuberculosis and Syphilis.**—Acuña and Garrahan conclude from five years of research that tuberculosis has no causal connection with asthma. Only 28.8 per cent. of 59 children with asthma responded positively to tuberculin tests, while the general average of positive responses in the apparently healthy was 49.4 per cent. A positive Wassermann reaction was noted in 21 of 31 children with asthma, but specific treatment had a curative action on the asthma only in a very few cases. Inherited syphilis may prepare the soil for the development of asthma.

**Toxic Paralysis of the Leg.**—The boy, aged 7, took a spoonful of a solution of mercuric chlorid, and after two days of anuria the right leg became paralyzed. Under massage, electricity and heliotherapy the use of the leg was regained toward the ninth month, but the muscles still give the reaction of degeneration. Toxic poliomyelitis seems the probable explanation.

**Desquamating Erythrodermia.**—In Berro's four cases, the Leiner-Moussous syndrome in the young infants had developed suddenly but seemed to be subsiding after a few days. Then suddenly the symptoms became aggravated, with a septicemic course. The affection finally yielded to treatment, but the appearance of this series of four cases all within a few days, and all in private homes, was peculiar.

## Prensa Médica Argentina, Buenos Aires

**9:** 881-906 (March 30) 1923

Case of Suprapubic Varices. R. A. Marotta.—p. 881.
Hydatid Cyst of Lung in Boy. Jacinto Moreno.—p. 883.
Right Pleural Effusion with Heart Disease. Alessandrini.—p. 886.
*Cholesterol in Eye. E. Adrogué.—p. 889.
*Adenoids and Physical Development. A. Levene.—p. 890.
Biopsy. S. Mazza and M. Balado.—p. 899. Cont'n.
*Treatment of Vagotonic Vomiting. Raul Ortega Belgrano.—p. 904.

**Cholesterol Crystals in Anterior Chamber of the Eye.**—Adrogué gives a photomicrograph showing the numerous flat, square crystals moving around in the anterior chamber with the two currents in the vitreous humor. The patient was a man, aged 51; the eye showed a cataract with atrophy of the iris.

**Adenoids and Physical Development.**—Levene has been able to follow for years the physical development of 100 children who had had adenoid vegetations or enlarged tonsils removed. He gives data for thirty-two of the children: all had developed remarkably after the operation, gaining more in height and weight than the average for their years. Among the 3,896 children entering the children's clinic for any cause, adenoids were found in 41.27 per cent., but only 50 per cent. have had their adenoids removed. Among 7,800 recruits examined, 25 per cent. were exempted on account of physical defects, and 33.5 per cent. in this group presented constitutional debility. Much of this is undoubtedly due to the evil effects of adenoids in childhood. In the school for weakly children, 43 per cent. were found to have adenoids. These gained only 1 kg. in weight during the year while the others gained 2 kg. Adenoids were found in 35 per cent. of the general school population.

**Treatment of Vagotonic Vomiting.**—Ortega Belgrano reports two cases presenting an array of symptoms indicating excessive irritability of the vagus center. A period of intense headaches and uncontrollable vomiting, with pulse of 52, was arrested at once on inhalation of amyl nitrite. The action of this drug was prolonged with belladonna, and the hypertension was combated with 30 per cent. solution of glucose. Another patient developed uncontrollable vomiting and bradycardia of 40 after excesses. Both were syphilitic, but the vomiting was not influenced by specific treatment. It yielded at once to the drug that inhibits vagus action.

## Revista Médica del Uruguay, Montevideo

**26:** 93-124 (March) 1923

*Hydatid Cysts of the Liver. G. Arrizabalaga.—p. 93.
Appeal for Coordination in Medical Education and Production in Latin America. J. Pou Orfila.—p. 104.
Intra-Urethral Simple Chancre. J. May.—p. 119.

**Hydatid Cysts in the Liver.**—Arrizabalaga injects a solution of formaldehyd to sterilize the cyst and then aspirates the contents. The walls of the empty sac collapse, aided by pressure on the abdominal wall. Then he fastens the wall of the sac to the parietal peritoneum, and keeps the patient under observation for two months. If the sac fills up again it is thus easily tapped, and if suppuration occurs, the sac can be fastened to the skin. Marsupialization became necessary in only 15 per cent. of his seventy cases; 60 per cent. promptly recovered after a single puncture, and 25 per cent. after repeated punctures.

## Semana Médica, Buenos Aires

**1:** 577-620 (March 29) 1923

*Diathermy in Treatment of Sterility. Castaño and Gómez.—p. 577.
Fracture of Supernumerary Bone in Tarsus. C. P. López.—p. 580.
Prophylaxis of Venereal Disease in the Navy. A. B. Ribeyrolles.—p. 584.
Coma from Acute Insufficiency of Liver and Kidneys. L. Goldemberg.—p. 600.
*Hernia of Brain in Wound of Frontal Bone. C. Fernicola.—p. 603.
Splenomegaly with Cirrhosis of Liver. H. Eppinger.—p. 604.
The Faenza Group of Paratyphoid Food Poisoning Cases. A. Lama.—p. 608.
Hygiene for Wage-Earners. V. Delfino.—p. 610.

**Diathermy in Treatment of Sterility.**—Castaño and Merlo Gomez apply diathermy for thirty or forty minutes on alternate days. The course is twenty sittings, and it is repeated if necessary after an interval of a month in treatment of hypoplasia of the uterus, the most common cause of sterility. They regard inherited syphilis as responsible for hypoplasia of the uterus and cystic sclerosis of the adnexa; the diathermy should be supplemented by appropriate treatment. In every one of their ten cases the cavity of the uterus increased by 2 cm. in length and one woman has since borne a healthy child.

**Hernia of Brain Tissue in Wound of Frontal Lobe.**—The boy, aged 10, had a smooth clinical recovery after resection of the soiled brain tissue that protruded after a kick from a horse.

## Deutsche medizinische Wochenschrift, Berlin

**49:** 335-368 (March 16) 1923

Exophthalmic Goiter. Goldscheider.—p. 335.
Surgical Treatment of Exophthalmic Goiter. O. Hildebrand.—p. 338.
*Pluriglandular Insufficiency. H. Zondek.—p. 339.
Oral, Conjunctival and Nasal Infection of Guinea-Pigs with Tubercle Bacilli. B. Lange.—p. 343.
Enhancement of Bactericidal Remedies by Intravenous Injections of Hypertonic Solutions of Glucose. S. Silberstein.—p. 345.
Combined Treatment of Psoriasis. Hübner.—p. 348.
"Transmigration Peritonitis." N. Müller.—p. 351.
General Principles of Balneotherapy. F. Muller.—p. 352.
General Principles of General Anesthesia. Fessler.—p. 353.
Free Medical Treatment and the Future of the Health of the German People. Stier-Somlo.—p. 357.

**Pluriglandular Insufficiency.**—Zondek publishes several observations on pluriglandular insufficiencies with the necropsy findings. He finds two opposite types: obesity and cachexia, which may be due to opposite disturbances of the same endocrine organs. Cachexia may follow the obesity. He found high metabolic figures in the obesity and low in the cachexia. The endocrine glands play an important part in the accommodation of different animals to seasonal changes, especially hibernation. He finds a similarity in human pathology: Persons with disturbances of the endocrine glands, especially of the thyroid gland and vegetative nervous system, may have sudden changes in weight and deposition of fat without changing their diet, coincident with the seasons. He quotes the history of a young vagotonic girl with distinct degenerative stigmata, who deposited fat regularly with the beginning of the hot season and lost it in winter.

## Klinische Wochenschrift, Berlin

**2:** 429-476 (March 5) 1923

*Etiology of Epidemic Encephalitis. A. Schnabel.—p. 429.
Pathogenetic Problems of Epidemic Encephalitis. F. Stern.—p. 433.
*Bile and Purin Metabolism. K. Harpuder.—p. 436.
*Skin Reactions in Children to Cerebrospinal Fluid. G. Usbeck.—p. 438.
Action of Normal Serum in Experimental Diphtheria. Ratnoff.—p. 440.
Malaria in Germany in Relation to Arsphenamin. Gordon.—p. 442.
Affections of Epiphyses in Growth Period. Engel.—p. 444. Conc'n.
Superinfection in Experimental Syphilis of Rabbits. Steinfeld.—p. 446.
Noiseless Inductorium for Alternating Currents. F. Scheminzky.—p. 448.
*Experimental Typhoid in Guinea-Pigs. Friedberger and Meissner.—p. 449.
Changes of Blood in Anaphylaxis. E. Wittkower.—p. 450.
Separation of Bodies Producing and Inhibiting Fibrinolysis and Their Relative Amounts in Body Fluids and Extracts of Organs. M. Rosenmann.—p. 450.
Pathogenesis and Treatment of Retroflexion of Pregnant Uterus. E. Vogt.—p. 451.
Periodic Examination of Apparently Healthy. Weiss.—p. 456. Conc'n.

**Etiology of Epidemic Encephalitis.**—Schnabel reviews the etiology of epidemic encephalitis and deals especially with his and Doerr's hypothesis on its identity with the virus of herpes. He inoculated himself with encephalitis virus after passage through the brains of rabbits. The virus produced a lethal encephalitis in rabbits, but only herpetic vesicles in the author.

**Bile and Purin Metabolism.**—Harpuder found uric acid in some bile samples examined. He does not think it justifiable

to attribute any part in purin metabolism to the bile. Similar traces may be found in sweat and saliva.

**Cutaneous Reactions in Tuberculous Children with Cerebrospinal Fluid from Tuberculous and Nontuberculous Meningitis.**—Usbeck confirms the usual absence of cutaneous reaction to their own cerebrospinal fluid in children with tuberculous meningitis. This fluid injected in other tuberculous children caused local reactions, which however were produced also by other cerebrospinal fluids. They are therefore nonspecific and without practical value. The same considerations apply to Wildbolz' reaction with urine.

**Pathogenesis of Experimental Infection of Guinea-Pigs with Typhoid Bacilli.**—Friedberger and Meissner believe that the only sign which is lacking to prove the etiologic action of Weil-Felix' *Proteus* X 19 for typhus fever is the impossibility of cultivating the bacilli from guinea-pigs infected with the virus of typhus fever. Their working hypothesis was that the bacillus changes in the animals into an invisible and uncultivatable form. To strengthen this hypothesis by showing that the phenomenon is not limited to typhus, they inoculated guinea-pigs with organs of a patient who had died from typhoid fever. The organs of these animals (especially the brain) were inoculated in others. The passage animals showed only an increase in temperature about ten or fourteen days after inoculation. Beginning from the second passage, no typhoid bacilli were cultivated from the animals. The inoculation protected them against intraperitoneal injections of typhoid bacilli, and the organs of the guinea-pigs taken during fever induced in rabbits the formation of agglutinins against typhoid bacilli. They conclude that the antigen of typhoid bacilli appears in two forms: a phanero-antigenic, which may be seen and cultivated, and a crypto-antigenic form of the virus.

**2:** 477-524 (March 12) 1923

Significance of Vegetative Nervous System in Heat Regulation and Metabolism. E. Toenniessen.—p. 477. Conc'n p. 525.
Significance of Eye Movements for Orientation. Koellner.—p. 482.
*Glycolysis in Blood. Rubino and Varela.—p. 484.
*Hay's Sulphur Test as Liver Function Test. H. Simon.—p. 488.
*Constitution and Convariability. S. Bondi.—p. 490.
Needle Electrodes for Electrocardiography. R. Stahl.—p. 492.
Significance of Placenta for Term of Confinement. A. Seitz.—p. 493.
Suprapubic Prostatectomies: Eighty Cases; One Fatal. Oppenheimer.—p. 496.
Treatment of Laryngeal Tuberculosis by Paralyzing Recurrent Nerve. Leichsenring.—p. 498.
Observations on Wassermann's Reaction. R. Strempel.—p. 499.
Reticulo-Endothelial System and Trypsin Poisoning. H. Pfeiffer and F. Standenath.—p. 499.
Intravital Deposits in the Reticulo-Endothelial System. Boerner-Patzelt.—p. 500.
Central Mechanism of Tetany and Its Relation to Decerebrate Rigidity. Spiegel and Nishikawa.—p. 500.
Otogenous Abscess of Cerebellum. T. Szász and H. Richter.—p. 501.
Thoracoscopy and Laparoscopy. Unverricht.—p. 502.
Noetic Sources of the Physician. H. Plessner.—p. 503.
Innervation of Sweat Glands. E. Schilf.—p. 506.

**Action of Hydrogen, Calcium and Mercuric Ions on Glycolysis in Blood.**—Rubino and Varela found that addition of calcium chlorid in certain amounts increases the glycolysis in blood. Further addition inhibits it. Removal of free calcium from the blood did not inhibit glycolysis. Very small amounts of mercuric chlorid increased, larger amounts inhibited glycolysis. In defibrinated blood of dogs, after a marked fall in reducing power in the first hour, they observed a rise in the second hour which they consider as due to other substances formed. The glycolysis continued in the third hour.

**Clinical Use of Hay's Sulphur Test as Liver Function Test.**—Simon finds that Hay's test with flowers of sulphur is practically as useful as stalagmometry for determination of the presence of surface-active bodies. Yet it has no value as a liver or heart function test, because it is very frequently due to substances other than bile salts.

**Constitution and Convariability.**—Bondi defines convariability as the change of qualities in an individual that come with increasing age. A physician who based a prognosis on a "habitus phthisicus" may be surprised a few years later to find his patient a "broad type."

## Medizinische Klinik, Berlin

**19:** 299-332 (March 11) 1923

*Puerperal Infection and Its Treatment. W. Sigwart.—p. 299.
Significance of Smoking for Diseases of Throat. Terbrüggen.—p. 304.
*Tonsils as Portal of Infection. Fein.—p. 306.
Attempted Abortions in Extra-Uterine Pregnancy. Hellendall.—p. 311.
Disinfecting Action of Heavy Metals on Urogenital System. Frank.—p. 313.
Pituitary Treatment in Constipation and Meteorism. J. Krausz.—p. 314.
Technic of Ponndorf's Cutaneous Inoculations. Koester.—p. 314.
Intravenous Injections of Concentrated Arsphenamin. Schlesinger.—p. 315.
Hemoclastic Crisis in Internal Diseases. Rösler.—p. 315.
Gynecology of Practitioners. E. Runge.—p. 318. Cont'n.
Results of Cancer Research. O. Strauss.—p. 319.

**Puerperal Infection and Its Treatment.**—Sigwart emphasizes the dangers of active procedures. Even bimanual palpation of the uterus may disturb the equilibrium between the streptococcus and the resistance of the organism. Only if the uterine smears show a mixture of bacilli practically without streptococci, and if the whole findings speak for a simple retention of lochia, should the uterus be washed out. Otherwise, expectant treatment with hot applications is indicated. The possibility of retention of remnants of placenta should be well founded before trying to remove them, once the fever is established. The removal is dangerous, and no curet should be used. After it, rinsing the uterus does no further injury, since there has already been an intrauterine operation. Serum treatment gives results if started early. A further important point is to watch out for a beginning diffuse peritonitis, which can be ascertained if necessary by punctures. Infusions of ether into the infected peritoneal cavity reduce the mortality.

**Tonsils as Portal of Infection, and Indications for Radical Operations.**—Fein considers it impossible for an acute infectious process, capable of inducing septicemia, to remain for weeks or months in the tonsil without causing visible signs of inflammation or subjective symptoms. He quotes Schottmüller, who states that even alveolar abscesses or infectious foci in the pulp of teeth have not the properties of a septic focus. This applies still more to accumulations of detritus in the tonsils, which are sometimes mistaken for abscesses. The recovery from distant symptoms that sometimes follows removal of tonsils is not as frequent as recovery without operation. Therapeutic failures after extirpation of tonsils are the rule. Proof of causal relation between a general disease and the tonsils (except in real inflammations) is not yet at hand. He recalls a similar fad for nasal operations for "reflex neuroses," which flourished not so long ago. The tonsils should be extirpated only if they are too large, if they are really diseased, or in cases of recurrent tonsillitis.

**19:** 333-370 (March 18) 1923

Varices and Phlebitis of Lower Extremities. K. Büdinger.—p. 333.
*The Antianaphylactic Stage. J. Caspari.—p. 338.
Significance of Uric Acid for Diffuse Nephritis. Aufrecht.—p. 340.
Diagnostic Curettement in Extra-Uterine Pregnancy. Hellendall.—p. 341.
Treatment of Cachectic Conditions. H. Hirsch.—p. 344.
Necessity of Rational Breathing Gymnastics. Ide.—p. 346.
Action and Use of Santal Oil on Male Sexual Organs. A. Perutz.—p. 348.
*Retention of Inorganic Iron in Perfused Liver. Matsuoka.—p. 351.
No Influence of Fracture of Femur on the Development of Pulmonary Tuberculosis. H. Engel.—p. 352.
Review of Psychotherapy and Sexology. W. Stekel.—p. 355.

**The Antianaphylactic Stage.**—Caspari examined daily the speed of sedimentation of the erythrocytes of children who had serum sickness. He found interesting changes in the stability of blood colloids, which may be of value for the explanation of the action of injections of proteins.

**Retention of Inorganic Iron in Perfused Liver.**—Matsuoka found that a perfused liver is able to retain a large proportion of inorganic iron.

## Münchener medizinische Wochenschrift, Munich

**70:** 229-258 (Feb. 23) 1923

What is Meant by Constitution? P. Mathes.—p. 229.
*Pigment Production in Addison's Disease. Bittorf.—p. 230.
Variation in Hydrochloric Acid Content After Test Breakfast. Spiethoff.—p. 232.
Silica in Shock Treatment. G. Zimmer.—p. 233.
Serous Meningitis of the Brain. H. Pette.—p. 236.

Tuberculosis with Picture of Spastic Hemiplegia. O. Herz.—p. 238.
Leukemia Simulating Anemia Infantum Pseudoleukemic. Reichmann.—p. 239.
Cystic Enlargement of Vesical End of Ureter. Baumann.—p. 240.
*Question of Preventive Arsphenamin Treatment. A. Poehlmann.—p. 241.
*Parathyroid Treatment of Parkinson's Disease. Bergmann.—p. 243.
Treatment of Relapsing Fever and Malaria. M. Kireeff.—p. 244.
History of Discovery of Circulation of Blood. W. v. Brunn.—p. 245.
Advice in Neurologic Diagnosis. H. Curschmann.—p. 247.

**Pigment Production in Addison's Disease.**—Bittorf maintains that the production of pigment in bronzing is due to increase of the oxydases in the skin. Vitiligo is the result of deficient oxydase.

**The Question of Preventive Arsphenamin Treatment.**—Poehlmann reports a singular case in which the wife of a syphilitic with a mixed chancre had been infected by streptobacilli but not with spirochetes.

**Parathyroid Treatment of Parkinson's Disease.**—Bergman says that Lundborg's theory of a connection between the parathyroids and paralysis agitans has not been supported by experiments. The inoculation of parathyroid substance in two cases of genuine paralysis agitans and in four cases of parkinsonian symptoms—sequelae of epidemic encephalitis—all proved negative.

**70:** 321-352 (March 16) 1923

*Plight of German Children. M. Pfaundler.—p. 321.
*Rheumatic Endocarditis. A. Krogius.—p. 325.
Diagnosis of Malaria. W. Strakosch.—p. 327.
*Ambulatory Treatment of Pulmonary Tuberculosis. K. H. Blümel.—p. 327.
Life, Stimulus, Disease and Inflammation. Ranke.—p. 330. Cont'n.
Migration of Bullet from Thorax into Pelvis. Steichele.—p. 334.
*Generalized Psoriasis Following Injection of Formic Acid. Malten.—p. 336.
Case of Endometritis After Abortion. Goebel.—p. 336.
Daily Hour of Gymnastics. L. Hoeflmayr.—p. 337.
Multiple Sclerosis. H. Curschmann.—p. 338.

**The Plight of German Children.**—Pfaundler deals objectively with both the alleged and the real distress of German children. He sees the need to "mobilize money abroad," but emphasizes the importance of keeping to the truth—which is bad enough—in the attempt to get it. Unfounded assertions, like the alleged 50 per cent. tuberculous morbidity of Berlin children and 80 per cent. of severe undernutrition hurt the cause. Not all Germans have lost by the war: the number of those who have gained by it, especially among the farmers, must not be underestimated. Exportation of foods, especially of milk products, which he says is being carried on—should not be tolerated. The dictatorship of organized producers of food and utilities is the real cause of the distress of the children of the unorganized minorities.

**Is Rheumatic Endocarditis a Complication of Acute Rheumatism or the Primary Disease?**—Krogius demonstrates the advantages of assuming the endocarditis in real acute polyarthritis to be primary. The peculiar recurrence and other features are explained by this assumption.

**Causes of Failure of Ambulatory Treatment of Pulmonary Tuberculosis, and Their Remedy.**—Blümel finds that part of the responsibility lies in the lack of special training of physicians. The greater part is in the patient, who neglects treatment as soon as he feels better. "The tuberculous man dies from his character." Most of the money of working men goes for pleasure and luxury. The tuberculous should be taught to spend it for food.

**Generalized Psoriasis Following Injection of Formic Acid.**—Malten's patient received an injection of formic acid for gout. The injection was followed the next day by urticaria and in a few days by a generalization of the old, localized psoriasis.

## Wiener klinische Wochenschrift, Vienna

**36:** 139-156 (Feb 22) 1923

*Treatment and Prophylaxis of Goiter. J. Wagner-Jauregg.—p. 139.
Intraspinal Arsphenamin Treatment of Syphilis. K. Schreiner.—p. 142. Cont'd.
Roentgen Diagnosis of Duodenal Ulcer. A. Plenk.—p. 145.
Treatment of Syphilis with Bismuth. F. Mras.—p. 146.
Growth of Dry Seeds After Exposure to Roentgen Rays. F. Weber.—p. 147.
*Treatment of High Blood Pressure by Purgatives. F. Kisch.—p. 148.

**Treatment and Prophylaxis of Goiter.**—Wagner-Jauregg observed four children treated for goiter by adding from 4 to 8 mg. of potassium iodid per kg. to the salt they consumed. All were cured. On the basis of 10 gm. salt per day for an adult, less for children, the child had received less than 0.04 mg. of potassium iodid a day. Bayard tried feeding a population of 1,200 in two Swiss villages with 0.004 gm. of potassium iodid per 1 kg. salt, with favorable results. In one of the villages the trial was continued during a year, the dose being increased from 0.01 during the first six months, to 0.02 per 1 kg. salt during the second half of the year. The goiters which had not reacted to the small dose, disappeared after the large, without unfavorable consequences. This iodized salt is prepared by spreading 400 kg. of salt from the Rhine fields in a shallow receptacle and shoveling it, while 200 c.c. of a 1 per cent. solution of potassium iodid is sprayed on it from an apparatus. He predicts that cretinism will disappear.

**Systematic Purging in Treatment of Permanently High Blood Pressure.**—Kisch has used systematic purging with success in 147 cases of what he calls the "cardiac-intestinal symptom-complex." This, he says, though rare in women, is so frequent in men after the age of 40, that it should have a special designation. The symptoms are: permanently high blood pressure; constipation; abnormal collection of gas in the digestive tract, forcing up the diaphragm and pushing the heart into a more transverse position; precordial oppression, frequent skipping of a heart beat, and tendency to angina pectoris. He has also found this treatment effective in arteriosclerosis, particularly of the coronary, cerebral and peripheral vessels, but only occasionally in atheroma of the aorta. He uses neutral mineral salts, in the form of alkaline-saline carbonated mineral water, or sodium sulphate, or artificial Carlsbad salts. Sodium sulphate facilitates individual dosing; it causes no irritation to the intestines, as its action depends on physical molecular characteristics, and it acts quickly. He uses the purgatives even when there is no constipation, but much gas.

**36:** 177-194 (March 8) 1923

*Present Status of Metasyphilis. E. Redlich.—p. 177. Conc'n p. 197.
*Urea in Blood in Diphtheria. Glesinger-Reischer and Glesinger.—p. 181.
*Specific and Nonspecific Action of Proteins. Hayek and Wieser.—p. 183.
*Pathogenesis and Treatment of Cardiac Asthma. S. Peller.—p. 184.
Perforative Peritonitis from Excessive Eating of Asparagus. H. Lorenz.—p. 185.
Endemic Goiter in Austria. J. Geringer.—p. 186.

**Metasyphilis.**—Redlich reviews the history of research on the etiology of tabes and general paralysis which has been cleared up by the Wassermann reaction and Noguchi's investigations. He believes that the Jahnel method will allow the finding of spirochetes in the brain of every person with general paralysis. The old question as to whether the changes in general paralysis are inflammatory or degenerative has been decided in favor of both theories. The changes are chiefly due to the toxic influence of the spirochetes. The main difference between general paralysis and other syphilitic affections of the nervous system lies in the different tissues that are affected. General paralysis is an affection of the brain proper (ectodermal), which gives no specific reaction. Neurosyphilis affects the mesodermal structures, especially the vessels, and injures the brain only secondarily. Tabes presents conditions similar to general paralysis though there are marked differences. Pathogenesis and especially the significance of the Obersteiner-Redlich area in the posterior roots are discussed. It is established that spirochetes invade the central nervous system early, as Fournier suspected long ago. Treatment does not seem to prevent metasyphilis.

**Urea in Blood in Diphtheria and Its Changes in Specific Treatment.**—Glesinger-Reischer and Glesinger found a moderate increase in blood urea in three quarters of their twenty-one cases. Antitoxin injections were followed by a decrease in the blood urea in diphtheria, but not in four patients with tonsillitis of other origin.

**Specific and Nonspecific Action of Proteins.**—Hayek and Wieser emphasize the large quantitative differences between

reactions of tuberculous subjects to tuberculin and to nonspecific proteins. There are also qualitative features in the course of the reaction. Nonspecific proteins never cause revival of previous cutaneous specific reactions, while tuberculin may do so even after months.

**Pathogenesis and Treatment of Cardiac Asthma.**—Peller recommends inducing venous stasis in one or more extremities. The action of this "bloodless venesection" seems to consist partly in the direct resistance in the ligated extremity, as Eppinger, Papp and Schwarz demonstrated, partly in a reflex general vasoconstriction.

## Zeitschrift für urologische Chirurgie, Berlin

**12:** 403-516 (April 14) 1923

*Contents of Seminal Vesicles Just After Death. Brack.—p. 403.
Diagnosis and Treatment of Diverticula of Bladder. Rosenberg.—p. 449.
Traumatic Rupture of Both Kidneys. M. Rehbein.—p. 455.
*Transplantation of Testes. Brandt and Lieschied.—p. 460.
*Surgical Treatment of "Nephritis." E. Wehner.—p. 467.

**Seminal Vesicle Contents in the Cadaver.**—Brack relates that no spermatozoa were found in 57.7 per cent. of 26 male cadavers under 25, nor in 56.5 per cent. of 26 between 36 and 45, nor in 36.5 per cent. of 52 between 65 and 75. He examined a total of 200 cadavers in 1920 and 300 in 1922. No spermatozoa were present in 47 per cent. of the total. He classifies the cases under different headings, and emphasizes the instructive findings for the diagnosis and prognosis during life when the secretion massaged from the seminal vesicles shows pathologic characteristics. One important practical conclusion from his research is that spermatozoa may be absent from the sperm, even in the young, much more frequently than hitherto supposed; this has a medicolegal bearing.

**Transplantation of Gonads.**—Brandt and Lieschied report four cases in which a testis was transplanted. No influence was apparent in two of the young men and the man, aged 52, but the fourth man, aged 29, was improved, but only transiently. Experiments on dogs confirmed degeneration of the testis into a cicatricial tissue.

**Surgical Treatment of Nephritis.**—Wehner gives ten pages of bibliographic references, set solid, on the surgical treatment of nephritis and more than two pages of titles on the surgical treatment of the kidneys in eclampsia, and summarizes the authors' views. Rovsing, among others, has been converted to the advantages of decapsulation in chronic nephritis: some of his patients have been free from kidney symptoms for ten years and more, and Kummell, in 1920, reported 11 apparently cured in 34 cases of Bright's disease. Rovsing now has a record of 37 women and 40 men: All of the 26 with interstitial nephritis with pain and hematuria, but no albumin in the intervals, and 19 of the 32 with albumin were cured; also 4 of the 8 with diffuse parenchymatous nephritis and the 2 unilateral cases in the 3 of glomerulonephritis. Others are reporting a few equally favorable results, but Wehner declares that surgical treatment of chronic nephritis is still in the experimental stage. Karo asserts that 4 of his 5 patients with severe uremia, anuria and extreme edema from Bright's disease, owe their lives to decapsulation. In 2 of 7 other cases, the cure seems complete; the urine is now free from albumin and tube-casts; four have regained full earning capacity. In one young woman with 1.2 per cent. albumin, fatal anuria followed bilateral decapsulation. The main task, he says, is to overcome the prejudices of the internists.

## Zentralblatt für Chirurgie, Leipzig

**50:** 553-584 (April 7) 1923

Köhler's Disease and Perthes' Disease. Axhausen.—p. 553.
*Inguinal Route to the Bladder. K. Mermingas.—p. 558.
Tumors of True Pelvis with Femoral Hernias. Bardenheuer.—p. 560.
*Two-Stage Resection in Gastric Cancer. Ziegner.—p. 562.
Apparatus for Bolstering Patients in Operations on Gallbladder and Bile Ducts. H. Simon.—p. 563.
The Rammstedt Operation Applied to Infants. W. Merkens.—p. 565.
Pointed-Oval Windows for Drainage. Nölle.—p. 566.
"A Substitute for Kehr's Drainage of Hepatic Duct." Flörcken.—p. 566.

**The Inguinal Route to the Bladder.**—Mermingas recommends the inguinal route for prostatectomy and other operations in the region of the bladder (lithotomy, fistula, tumor excision). He has followed the inguinal route in four cases. He makes the incision a fingerbreadth above and parallel with the middle third of Poupart's ligament. The aponeurosis of the external oblique muscle is divided in the same direction (the spermatic cord is not exposed). Blunt dissection upward of the lowest fibers of the internal oblique and the transverse abdominal muscle is done. Retraction outward of the inferior epigastric artery, notching of the insertion of the rectus muscle, division of the transversalis fascia, and removal of the preperitoneal fat tissue follow. The bladder is brought up from its position and the operation is completed. If it should prove necessary to operate again on the bladder, the incision may be made on the opposite side.

**Two-Stage Resection of the Pylorus in Advanced Carcinoma of Stomach.**—Ziegner recommends a two-stage operation in advanced conditions of carcinoma of the pylorus: first a vertical posterior retrocolic gastro-enterostomy, and a few weeks later the final resection. Results show that the reasoning that prompted the application of this method was, on the whole, well founded. Nearly all patients, after the enterostomy, gained, in a short time, from 14 to 20 pounds, though the carcinoma was still present. The main advantages of the two-stage procedure are: (1) the primary mortality is reduced, and (2) in many apparently inoperable cases an operation may still be performed.

## Hospitalstidende, Copenhagen

**66:** 185-224 (March 7 and 14) 1923

*Pulmonary Tuberculosis in Greenland. S. Rohleder.—p. 185. Begun p. 169.
Expulsion of Tenia After Neo-Arsphenamin. Lundsgaard.—p. 190.
Experimental Optic Nystagmus. G. V. T. Borries.—p. 201.
*Tests of Kidney Functioning in Prognosis. J. Riising.—p. 210.

**Tuberculosis in Greenland.**—Practically the same article was summarized on page 1549 when published elsewhere.

**Functional Tests in Prognosis of Kidney Disease.**—Riising relates that all his patients with retention of water (output of 450 c.c. or less from half an hour to four and a half hours after drinking 1 liter of water, fasting) died in a few months afterward, only two surviving for two years. He tabulates the findings with various tests applied to numbers of kidney patients. None of the other tests showed any constant connection with the outcome.

## Svenska Läkaresällskapets Handlingar, Stockholm

**49:** 1-72 (March 31) 1923

Instruction in the History of Medicine. E. Nachmanson.—p. 1.
*Systematization of Kidney Diseases. H. Bergstrand.—p. 26.

**Nephrosis and Glomerulonephritis.**—Bergstrand agrees with Volhard and Fahr in dividing diffuse kidney diseases into nephrosis, glomerulonephritis and nephrosclerosis, but objects to the division of nephrosis into four stages. Under their system the so-called genuine nephrosis, formerly included with parenchymatous nephritis, would be ranked with such kidney changes as those due to phosphorus and diphtheria toxin, and would be called the second stage. Nephrosis should be a collective term, not corresponding to any particular pathologic picture. Acute glomerulonephritis has not generally been differentiated from acute embolic nephritis. Herxheimer recently published twelve cases of glomerulonephritis of which only two deserved this name. Embolic nephritis, including Fahr's focal glomerulonephritis, appears principally in ulcerative endocarditis, but also with other septic conditions. The main stress should not be laid on the mechanical embolic changes, but on the fact that bacteria are carried into the kidneys, and there cause glomerulitis, resembling glomerulonephritis. True glomerulonephritis, on the other hand, is nonbacterial diffuse disease. The pathologic anatomy in glomerulonephritis must be based on uncomplicated cases and not on examinations of kidneys in ulcerative endocarditis, erysipelas, purulent meningitis, etc., which have shown clinical kidney symptoms.